A3872-1

CSI

THE SERVICE ECONOMY

A publication by the Coalition of Service Industries.

Vol. 4, No. 4 January 1990

A NEW OUTLOOK FOR FEDERAL STATISTICAL POLICY

Courtenay Slater

Major new legislation affecting statistical policy can be expected from Congress this year. The new legislation will reauthorize many provisions of the existing Paperwork Reduction Act but will add a new, more positive emphasis. The new outlook is reflected in the title of the Senate bill, "The Federal Information Resources Management Act" and in its statement of purpose to "ensure the greatest possible public benefit from information collected, maintained, used, disseminated, and retained by the Federal Government".

With such heightened Congressional awareness of the importance of making good information available to the public, the present moment is a long-awaited opportunity to achieve significant improvements in the coordinating framework for the government's statistical program.

This article provides some description of current statistical problems, and some thoughts on how the pending legislation can contribute to their solution.

Changes in the Economy Demand New Statistical Priorities

The task of providing meaningful and complete quantitative measures of the economy is formidable. In the United States we are fortunate to have capable, dedicated statistical personnel and

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a large complement of professionally-prepared information, yet our statistical agencies have not been able to keep up with the complex and ever-changing nature of society and the economy.

The rapid growth of international markets has created new policy questions, many of which cannot be answered with existing data. The volume of U.S. merchandise imports has increased dramatically and international flows of services, investment capital, and human beings have increased at an even more dizzying pace. The well-publicized problems of measuring merchandise trade pale when compared with those of obtaining reliable estimates of these other aspects of our international position.

Although statistics about foreign trade and finance have improved in recent years, the need for information in this area has grown enormously. Not only the data but the statistical concepts are sorely lacking. Lack of reliable official information has left the door open to misinformation from non-government sources.

Information on the domestic economy is also threatened with obsolescence. It is well-recognized that we have shifted to a predominantly service economy and that our statistics, despite some valiant efforts, have not kept pace. This statement, however, disguises the complexity of the problem.

The problem starts with definitions for new kinds of business activity. What is a good? What is a service? Computer software, for example, is classified as a service in the Standard Industrial Classification (SIC) code, yet mass-produced software seems to fully meet the traditional definition of a manufactured good.

To take another example, the thousands of new "high tech" firms that emerge each year often do not fit well into existing SIC codes, and hence we have no good standard measure of their growth. The long overdue SIC code revisions just now being implemented will help, but not nearly enough.

The businesses growing up around new technology are structured differently than old-line manufacturing industries. Some blossom rapidly into industry leaders like Apple, Lotus, Microsoft, and Compaq; some become prosperous small businesses; others disappear as quickly as they came. How can we analyze questions of entrepreneurial behavior, industrial structure, and international competitiveness when we cannot even categorize and measure these new firms, or when whole new industries evolve in between economic censuses and revisions in the SIC code?

Agencies Are Burdened by the Information Collection Budget

The inherent challenges of keeping statistical pace with economic change are great. In trying to meet them, statistical agencies are hampered by inadequate budgets, a complex set of bureaucratic stumbling blocks, and above all by a lack of central coordination and of priority attention at the top levels of government.

The director of a statistical agency faces a budget ceiling, a personnel ceiling, an Information Collection Budget ceiling, and an array of regulations pertaining to hiring, procurement and virtually

every aspect of program management. These regulations have been established in pursuit of important public policy goals. Taken together, however, they impose substantial inefficiencies on government programs. In these days of fiscal stringency, program managers must be given greater flexibility to use available funds in the most efficient way.

The Information Collection Budget and the ways in which respondent burden is measured pose a particular problem. The present measurement system makes no distinction, for example, between the burden imposed on individuals and on businesses. There is abundant evidence that individuals do not generally regard responding to statistical queries as a burden, and neither businesses nor individuals regard statistical queries as burdensome as tax forms, for example.

The "burden" totals reported by the Office of Management and Budget (OMB) based on the present Information Collection Budget are not meaningful. In fact, they are misleading and their effect is mischievous. Intentionally or not, they seem designed to document alleged progress in reducing the amount of paperwork imposed by the government on the public. It seems doubtful that any such progress exists, and it is unlikely that the public feels less burdened with paperwork today than ten years ago. If the government is indeed serious about wanting to reduce paperwork, Information Collection Budgets and annual percent reduction requirements should be abandoned in favor of more meaningful approaches.

Statistical collections represent only a tiny fraction of the total paperwork the government requires of individuals. Even so, the burden imposed by statistical queries can indeed be reduced. To effectively contain reporting requirements, the government should concentrate its attention on efforts such as better forms design; computer-assisted interviewing; and increased use of "administrative records", that is, of information that is collected anyway to meet program management needs. Steps such as these would not only reduce the reporting load, but would result in better data.

Progress will be most rapid if there is close coordination among agencies. Very particularly, better statistical use of administrative records requires interagency cooperation, since the agency collecting the information often will not be the one producing the statistics, and indeed, typically will not be a statistical agency at all. The need for coordination thus goes well beyond cooperation among the statistical agencies themselves.

A Decentralized Statistical System Requires Strong Coordination

Our decentralized statistical program requires a strong coordination mechanism to make it work well, and the experience of the past 15 years has demonstrated the need for this mechanism to be firmly established in law. The original Paperwork Reduction Act of 1980 placed statistical coordination within OMB's Office on Information and Regulatory Affairs (OIRA). The placement in OIRA was unfortunate, and in the early 1980's total extinction of any identifiable statistical policy staff by an Administration far more concerned with questions of regulation and deregulation was only narrowly averted.

The position of Chief Statistician has subsequently been established, but staffing remains woefully inadequate, and OIRA is still the wrong place for the statistical policy and coordination function. Legislation that renews or replaces the Paperwork Reduction Act should maintain the

statistical policy and coordination authority and responsibility contained in the present law. But these responsibilities should be removed from OIRA and placed in a separate office headed by a Chief Statistician reporting to the Director of OMB. Given OMB's track record over the past decade, this office should be explicitly established by law. The law should require that this office be headed by an individual with appropriate professional experience and that the office be adequately staffed.

This fairly simple change in current law would do much to lay the foundation for improved management and coordination of the federal statistical program, and would accomplish several things:

1. It would elevate the statistical policy function in seniority and visibility, giving it the authority needed to deal effectively with agency heads and place it more nearly on a par with counterparts in other countries with whom the United States must cooperate on statistical endeavors.

2. It would remove statistical policy from OIRA, where it is not only subject to neglect, but where it easily becomes confused in the public perception with collection of information for regulatory purposes.

3. It would facilitate the ability of the statistical policy staff to work closely not only with forms clearance staff in what is now OIRA, but also with budget examiners elsewhere in OMB.

Pending Legislation is a Step in the Right Direction

As they presently stand, neither the House nor the Senate bill would do all that is needed to strengthen the statistical function, but they both take big steps in the right direction:

- emphasis on the Information Collection Budget is relaxed; the House bill in particular removes the requirement for an annual percent reduction in "reporting burden" and calls for a concentrated attack on some of the biggest sources of burden — tax forms, and government procurement and grant application procedures.

- both bills emphasize the need for OMB to give higher priority to statistical policy coordination. Both would establish an outside committee to advise OMB on statistical policy, and the Senate bill provides for an enhanced role for the statistical policy staff in the review of budgets for statistical agencies.

The Senate bill would establish a Commission on Federal Information, to report by July 1991 on the more sweeping changes needed in Federal information policy if the government and the public are to make the best use of government information. If the present receptive climate can be maintained, such a Commission could have the opportunity to make its recommendations to an audience prepared to enact information policies truly adequate for modern times.

SERVICES ECONOMIC HIGHLIGHTS

CSI

Allen Sinai
Chief Economist, Boston Company Economic Advisors, Inc.

Services At a Glance

- ***Services GNP Measured by Expenditures***—or the service component of expenditures by consumers, businesses, government and the net service export balance—grew a brisk 5.3% in the third quarter compared to the 3.1% rate in the second quarter.
- The ***Service Sector Leading Index***—which leads the sector's activity by about six months—slowed to a 2.6% growth rate in November. The annual growth rate of the coincident index, reflecting current economic conditions for the service sector, was 3%.
- ***Employment*** in service industries continues to grow. From October to November, service sector employment increased by 213,000 persons, and was up 2.4 million persons from the previous year.
- ***Services Investment*** rose in the third quarter, to an 11.7% increase from the previous quarter, compared to the 8.7% rate of increase in the second quarter. Overall investment increased 12.1%, up from 11.2% in the second quarter.
- ***Personal Consumption Expenditures*** maintained strong growth in the third quarter and were up 4.3% from the second quarter. Personal consumption of goods grew a rapid 6.9%.
- ***Prices of Consumer Services*** for November increased 4.9% from the level a year earlier and were up 0.3% from the previous month.
- The ***Stock Price Index*** climbed 31% over the twelve months ending in November, but declined 2% from the previous month.
- ***Profits in Service Industries*** fell 13.4% in the July-September period, reversing a 14.8% jump in the previous three-month period. Goods sector profits declined for the third consecutive month by 15.4%.
- ***True Services Exports*** increased by $837 million, bringing the total for the third quarter to a record-high $25.9 billion, surpassing the previous record of $25.7 billion in the second quarter.

Bottom Line: With gains in consumption, investment, and employment, service sector growth remained steady through the 3rd Quarter of 1989, and is expected to continue into the first part of 1990.

The Service Economy refers to the total economy, in which the Service Sector is the dominant factor. The Service Sector represents 68% of real production GNP and 76% of employment. Major segments are: Communications; Transportation; Public Utilities; Finance, Insurance and Real Estate; Wholesale and Retail Trade; Government; and "Service," a diverse category including Business Services, Personal Services and Health Services.

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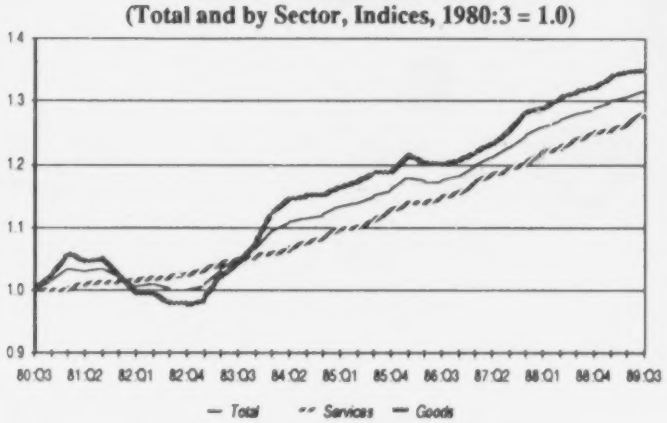
The Service Economy at a Glance

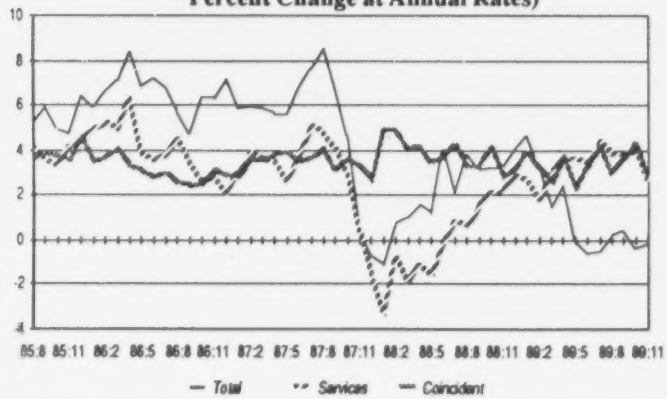
Chart 1
Real Gross National Product
(Total and by Sector, Indices, 1980:3 = 1.0)



Services GNP Climbs 5.3%

In the third quarter of 1989, services GNP—measured by expenditures—climbed 5.3%, following a strong 3.1% growth rate in the second quarter. The goods component, including construction, slowed to a modest 0.9% rate, compared to the 2.0% rate of increase in the second quarter and the 5.4% rate in the first quarter. Total GNP grew a strong 3.0% in the latest reporting quarter.

Chart 2
Leading Economic Indicator Indices
(Total Economy and Service Sector, Six-Month Smoothed, Percent Change at Annual Rates)

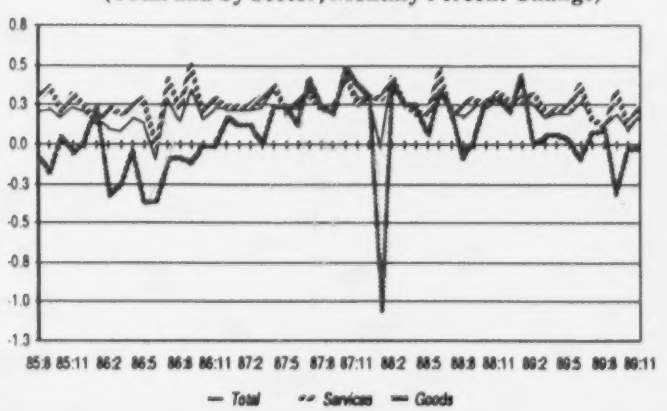


Growth in Services Leading Index Slows

In November, the leading and coincident indices for services slowed to growth rates of 2.6% and 3% respectively, compared to rates of 3.9% and 4.4% in October. The leading indicator for the whole economy declined for the second consecutive month by 0.2%, following a 0.4% drop in the previous month.

The Service Sector Indices are produced by the Center for International Business Cycle Research, Columbia University.

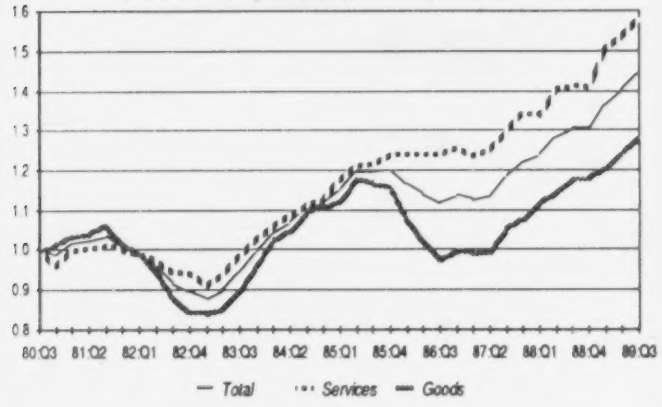
Chart 3
Employment Growth
(Total and by Sector, Monthly Percent Change)



Service Sector Employment Continues to Increase

Since June 1986, the trend in service sector employment has been upward. November employment in service industries increased by 213,000 persons from October, while goods sector employment declined for the third consecutive month. Compared to November 1988, service sector employment grew by 2.4 million persons, while employment in the goods sector was up by a weak 14,000 persons.

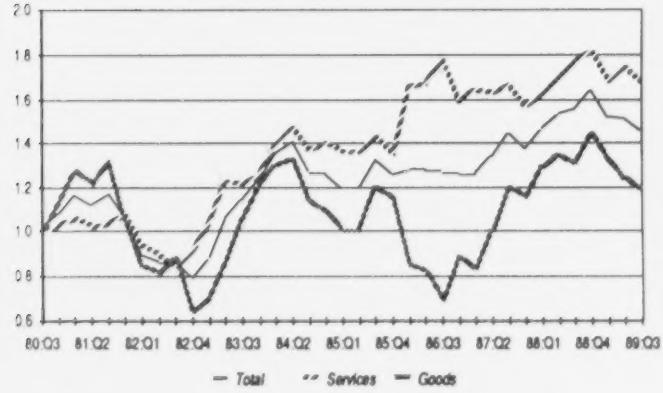
Chart 4
Real Expenditure on Plant and Equipment
(Total and by Sector, Indices, 1980:3 = 1.0)



Services Investment Up 11.7%

Real expenditures on plant and equipment (P&E) by service industries increased 11.7% in the third quarter, up from the 8.7% growth rate in the previous three-month period. Goods industries increased real expenditures on P&E by 12.7%, slightly weaker than the 14.9% rate of increase in the second quarter. Overall spending on P&E rose 12.1%, faster than the 11.2% increase in the April-June period.

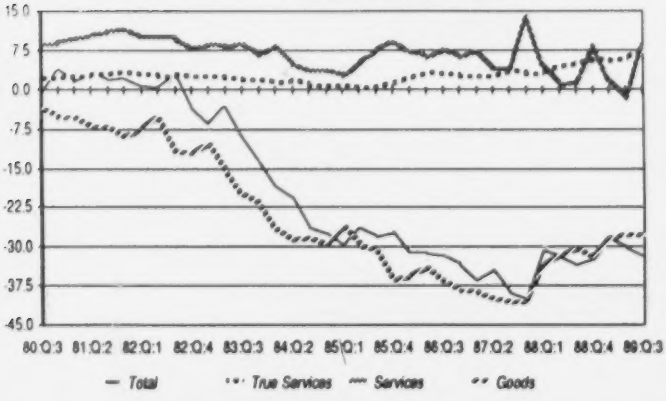
Chart 5
Corporate Profits For Domestic Industries
(Total and by Sector, Indices, 1980:3 = 1.0)



Service Sector Profits Down 13.4%

Profits of service industries plunged 13.4%, swinging from a 14% increase in the second quarter. Profits in the goods sector continued to decrease. In the latest three-month period, goods sector profits fell 15.4%, following declines of 23.3% and 30% in the previous two quarters. Corporate profits for all industries were down 9.1%.

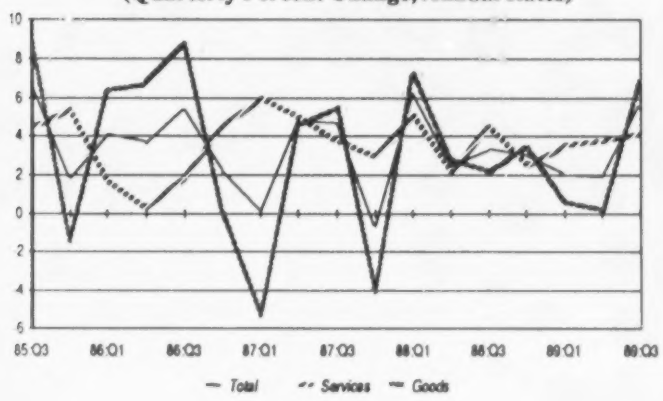
Chart 6
Current Account Balance and Components
(Billions of Dollars)



True Services Surplus Posts Record-High

At $7.4 billion, the true services surplus posted a new record-high, surpassing the previous record of $6.8 billion in the second quarter. The merchandise trade deficit widened by $197 million to $27.8 billion. Strong growth in the services balance resulted in a narrower overall current account deficit, which was down 29.3% to $22.7 billion from $32.1 billion in the second quarter.

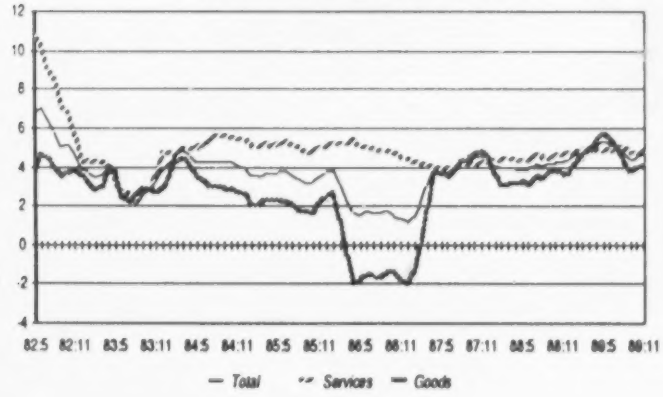
Chart 7
Real Personal Consumption Expenditures
(Quarterly Percent Change, Annual Rates)



Spending on Services Remains High

Personal consumption expenditure on services increased a price-adjusted 4.3%, following a strong 3.8% growth rate in the previous three-month period. Compared to the mere 0.1% increase in the second quarter, spending on goods soared 6.9%, pushing overall spending up 5.6%.

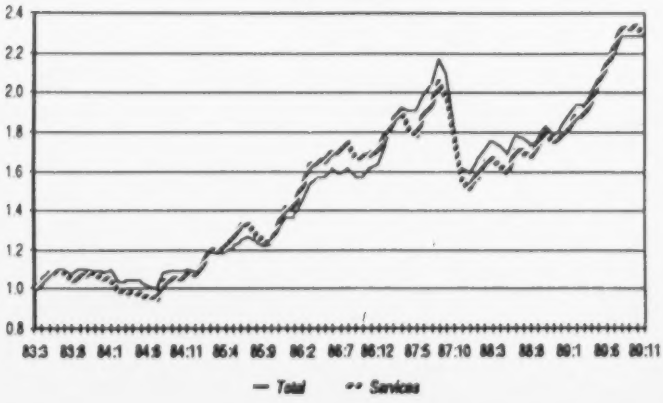
Chart 8
Consumer Price Indices
(Percent Change, Year Ago)



Service Inflation Up 4.9%

On a year-over-year basis, prices in the service component of the Consumer Price Index (CPI-U) increased 4.9% in November, up slightly from the 4.8% rate of increase reported in the previous two months. Prices in the goods component of the CPI-U also increased one percentage point to 4.2%. Overall prices in November were up 4.7%.

Chart 9
S&P 500 and Services Stock Price Indices
(1983:3 = 1.0)



Stock Prices Fall

In November, the services stock price and overall S&P 500 indices fell 2% and 0.4%, respectively, from the previous month. November was the first monthly decline since March. Compared to their year-earlier levels, the services stock price index was 31% higher while the S&P 500 index was up 27.7%.

The Services Stock Price Index is based on S&P indices for 13 service industries and is compiled by the Center for International Business Cycle Research.

THE SERVICE ECONOMY EXPANDS INTO THE NINETIES

by Allen Sinai and Michael Drury

The service economy has grown tremendously during the postwar period to become the predominant force in the U.S. economy today. Yet, with service producing jobs already accounting for more than three-quarters of all employment, how much further can the service economy expand in the 1990s? Will the service economy continue to enjoy the rapid growth of the past forty years during the next ten? What forces will shape the demand for services in the nineties?

Though predictions for the future are always uncertain, the service economy should continue to expand at a robust pace in the 1990s — enjoying the same growth that has been seen over the past ten years.

The aging of the baby boom and their accompanying income growth are major long-term forces in the domestic economy that indicate there will be a growing demand for services — particularly in the areas of education, social and welfare services, financial services and travel.

The unification of Europe by 1992, the rise of the newly industrialized countries of the Pacific Rim, and the freeing of Eastern Bloc economies will stimulate international competition in the next decade. As each country seeks to market its goods, there will be a strong demand for business services such as advertising, financial advice and engineering consultation. Rising global incomes will boost demand for consumer services, such as international travel, as well.

Comparative Statistics on Growth in the Service Economy

Services as a percent of:	July 1969	July 1979	July 1989
Payroll employment	65.0	70.2	76.1
National income	64.0	66.3	73.8
Final sales	42.6	44.6	51.5

Source: Department of Commerce, The Boston Company Economic Advisors

There is More to Come

Since World War II, services have been the engine for growth in the U.S. economy. In July 1969, on the threshold of the seventies, services accounted for 65 percent of all jobs, 64 percent of national income and 42.6 percent of all final sales. Ten years later, services had grown to 70.2 percent of all employment, 66.3 percent of national income and 44.6 percent of final sales. As the final decade of the century begins, services have expanded to 76.1 percent of U.S. employment, 73.8 percent of national income and 51.5 percent of final sales. Can growth in services' share of total economic activity continue to expand at this robust pace in the 1990s?

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The answer appears to be yes, with the New York-New Jersey regional economy as perhaps the best example of just how dominant services can become. In the United States, services account for 71.2 percent of all earnings (wages, salaries, and proprietors' incomes). Yet, in New York and New Jersey, where per capita incomes are near the highest in the nation, where the population is relatively older, and where exports of services to the rest of the country are a mainstay of economic growth, services account for 78 percent of earnings. The New York-New Jersey economy accounts for more than one-sixth of all U.S. economic activity. In New York City proper, which employs 3.3 percent of the U.S. workforce, nearly 87 percent of all jobs are in the service sector.

The Baby Boom is Buying Services

One immutable force which is certain to result in much stronger demand for services is the aging of the U.S. population, and the graying of the baby boom in particular. Consumers' spending habits change as they age, with demand for different products reaching a peak at different points in the life cycle. In the nineties, the aging of the baby boom will make the thirty-five to forty-five year old age group the fastest growing — sharply boosting demand for goods and services preferred by that age group. Meanwhile, the population under twenty-five will actually shrink, curtailing demand for products preferred by young adults.

If spending follows the patterns set by earlier generations, the advance into middle age will lead to exceptionally strong growth in demand for educational services, as baby boomers send their children to school. This is a big turnabout from the eighties when the growth in demand for education suffered as the baby boom generation graduated from college and the smaller "baby bust" (or birth dearth) generation passed through the educational system. President Bush may well be the "education President", regardless of federal policy, as private investment in education is expected to grow three times as fast as income in the nineties, due to heavy outlays for schooling by baby boomers.

There also is likely to be more privately funded investment in social, religious and welfare services as middle-aged baby boomers begin to spend a significant share of their growing discretionary incomes on personal contributions to charities and other groups. Indeed, of all spending categories only educational expenditures are expected to grow faster in the 1990s. This surge in giving will be a major reversal from the apparent stinginess of the "me" generation of the eighties, when many young adults, strapped by home loans, car loans, college loans and other debts, were less beneficent with their funds.

Financial services, including a wide array of insurance products, should enjoy much stronger demand during the next ten years as higher incomes result in substantially higher savings. This surge in investment will not require an increase in the savings rate because higher incomes resulting from the greater productivity of older, better-trained workers will swell national savings--even at the same low savings rate evident in the 1980s. Any increase in the savings rate, possibly as a result of changes in the tax code, will boost demand for financial services all the more.

Services related to the rental housing and mortgage markets are unlikely to fare so well in the nineties. These markets, which bulged during the initial housing of the baby boom in the seventies and eighties, will shrink as the population under 30 years of age shrivels. Aging baby boomers will be moving out of the rental market, seeking home ownership for security and investment purposes, yet the size of the mortgage market is unlikely to increase significantly as rising incomes will be used to pay down mortgage debt.

Among discretionary expenditures, travel is likely to be the greatest winner in the 1990s — especially air travel and travel abroad. Other forms of entertainment, including eating out, theatre, and spectator events may see their share of spending shrink modestly as the presence of children leads to more spending on in-home entertainment services like cable TV and video rentals.

A Rising Tide Raises All Boats

Income growth from the natural gains in productivity generated by a more experienced workforce will be augmented by technological changes, such as advancements in computers, breakthroughs in superconductivity, or new insights from biotechnology. New technologies reduce costs, allowing increased output and, ultimately, incomes.

Rising incomes have long been associated with increased demand for services, as a greater portion of discretionary income goes to areas such as entertainment, health care and personal business services. Health care expenditures are likely to remain one of the fastest growing sectors of the economy, as the population over 75 years of age is the second fastest growing age group in America. Competition between private and public health care providers will likely heat up as budget problems for federal, state and local governments force private business and individuals to bear more of the cost directly.

Competition Boosts Demand for Business Services

The business climate of the 1990s is likely to be marked by fierce competition in both domestic and international markets. A wave of deregulation in the 1980s exposed many service sectors to competition, free of government controls. At the same time, the rise of the newly industrialized countries has significantly increased international competition. Now the opening of Eastern Bloc economies promises to increase global competition even further.

Competitive markets increase opportunities, but they also increase risk. In a fiercely competitive world, businesses must seek to be either the low-cost producer of mass market products, or specialize to serve narrower niche markets where fatter profit margins can be earned.

In either case, managements will rely more heavily on professional business services. Financial consultants, accountants and auditors will be needed to track and minimize costs, while advertising, market research and design will enhance the quality of manufactured products. Legal counsel will be critical to protecting the value of trademarks and patents, and to analyzing the complexities of international contracts.

At present, the bulk of the growth in the U.S. economy comes from small businesses. If this trend continues in the 1990s, the need for professional services from outside specialists should continue to grow. Many of these smaller firms do not maintain in-house professional staffs, and even large firms increasingly prefer the flexibility of purchasing services from outside suppliers--from temporary clerical help to legal counsel. This practice provides firms with the ability to adjust to new situations quickly, through access to a wide array of services, without incurring significant overhead costs, and is likely to be one of the fundamental features of a successful business in the next decade.

Internationally, the United States still maintains a competitive advantage in services trade. The far lower labor costs available in the newly industrialized countries and the Eastern Bloc make these nations the likely sites for future expansion in manufacturing. Yet, because many of these countries lack capital and a well-trained workforce, they will purchase much of the service content for the products they manufacture from the U.S. and other more developed nations.

Indeed, if exports of services (excluding returns on investments abroad) continue to expand at the same robust 6.5 percent annual rate pace (after adjustment for inflation) they have enjoyed for the past twenty years, by the end of the 1990s the surplus from trade in "true" services should triple to nearly $100 billion, providing a hefty offset to the widening merchandise trade gap.

The Trend Toward Services Continues

The fundamental forces of the nineties, both domestically and abroad, suggest that the service economy will continue to enjoy robust growth over the next ten years, providing a strong backbone to the overall economy. The aging population, growth in incomes, the rise of Pacific Rim nations and the Eastern Bloc all suggest significant opportunities for service providers in the coming decade.

Moreover, the foundation on which many service businesses are built is education. Growth industries of the future such as financial services, health and business services will require a well-educated, highly-skilled workforce. The expected renaissance in concern for education in the 1990s is essential if the United States is to continue the expansion of the service economy into the next century.

Growth Industries in the Service Sector

In the 1990's	Compared to the 1980's
1. Education	1. Brokerage & Investment
2. Social, Religious and Welfare services	2. Sanitation
3. Brokerage & Investment	3. Business services
4. Insurance	4. Legal services
5. Travel-related services	5. Health
6. Business services	6. Transportation

Table 1
Summary of the Service Economy
(Monthly Indicators)

	1989:6	1989:7	1989:8	1989:9	1989:10	1989:11	1984	1985	1986	1987	1988
Total Employment—Millions	108.6	108.8	108.9	109.1	109.2	109.4	94.5	97.5	99.5	102.2	105.6
Services	83.0	83.1	83.2	83.5	83.6	83.8	69.8	72.7	75.0	77.5	80.3
Goods	25.6	25.7	25.7	25.6	25.6	25.6	24.7	24.9	24.6	24.7	25.2
Total Wages and Salaries—											
Billions of Dollars	2621.7	2644.7	2651.0	2668.4	2697.8	2699.5	1838.6	1975.4	2094.8	2249.4	2429.0
Services	1885.6	1905.5	1906.8	1923.8	1946.0	1950.2	1261.0	1366.5	1469.2	1599.4	1732.7
Goods	736.1	739.2	744.8	744.6	751.8	749.3	577.6	608.9	625.6	649.9	696.3
Total Wages and Salaries—											
%Change, Year-Over-Year	8.3	8.2	8.3	8.2	8.0	7.9	9.7	7.4	6.0	7.4	8.4
Services	9.3	9.3	9.1	9.3	9.3	9.1	9.3	8.4	7.5	8.9	8.3
Goods	5.8	5.7	6.3	5.6	5.0	5.0	10.4	5.4	2.7	3.9	7.1
Consumer Price Index—All Urban,											
%Change, Year-Over-Year	5.2	5.0	4.7	4.3	4.5	4.7	4.3	3.5	1.9	3.7	4.1
Services	4.9	5.1	5.1	4.8	4.8	4.9	5.3	5.1	5.0	4.1	4.6
Goods	5.5	4.9	4.3	3.8	4.1	4.2	3.4	2.1	-1.0	3.2	3.5
Services Leading Indicator											
Index (%)*	3.5	4.4	3.8	3.9	3.9	2.6	2.3	3.5	4.0	3.0	0.5
Leading Economic Indicator											
Index—Total (%)*	-0.7	-0.5	0.2	0.4	-0.4	-0.2	2.1	3.3	6.6	5.2	1.9
Services Coincident Indicator											
Index (%)*	3.1	4.2	3.0	3.7	4.4	3.0	3.7	3.8	3.1	3.5	3.9
Service Industries Stock Price											
Index	111.6	116.5	121.9	122.1	122.6	120.1	53.0	66.2	86.3	95.6	88.3
S&P 500 Stock Price Index	323.7	331.9	346.6	347.3	347.4	346.0	160.5	186.8	236.3	286.8	265.8

* *Growth rate expressed in six-month smoothed percent changes at annual rate.*

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Center for International Business Cycle Research and The Boston Company Economic Advisors, Inc.

Table 2
Summary of the Service Economy
(Percent Change, SAAR, Except Where Indicated)

	1988:2	1988:3	1988:4	1989:1	1989:2	1989:3	1984	1985	1986	1987	1988
Gross National Product	3.7	3.2	2.7	3.7	2.5	3.0	6.8	3.4	2.7	3.7	4.4
Services	1.8	4.0	3.4	1.8	3.1	5.3	2.5	3.6	3.2	3.7	3.9
Goods and Construction	5.3	2.6	2.0	5.4	2.0	0.9	10.8	3.1	2.3	3.6	4.9
Construction	6.8	-0.6	4.0	-4.9	-9.9	-2.4	12.4	3.7	1.5	-1.4	-0.5
GNP—Product Measure	—	—	—	—	—	—	6.8	3.4	2.7	3.7	4.4
Services	—	—	—	—	—	—	5.4	4.1	3.8	3.9	NA
Goods	—	—	—	—	—	—	10.7	3.9	1.2	3.2	NA
Manufacturing	—	—	—	—	—	—	12.2	3.8	2.3	4.3	NA
Agri./Mining/Construction	—	—	—	—	—	—	7.8	4.0	-0.8	0.9	NA
Consumption Expenditures	2.5	3.3	3.0	2.0	1.9	5.6	4.8	4.7	3.9	2.8	3.4
Services	2.2	4.5	2.6	3.6	3.8	4.3	3.5	4.7	2.7	4.2	3.8
Goods	2.8	2.2	3.5	0.6	0.1	6.9	6.1	4.7	5.0	1.4	3.0
Plant and Equipment											
Expenditures	13.8	4.4	-2.3	17.5	11.2	12.1	16.6	9.4	-3.2	4.0	9.0
Services	17.3	1.2	-3.7	29.6	8.7	11.7	13.6	10.4	3.5	4.3	7.7
Goods	9.1	9.1	-0.3	2.5	14.9	12.7	20.3	8.2	-11.2	3.5	10.8
Corporate Profits—Current Dollars											
%Change, Year-Over-Year	18.7	5.5	24.2	-27.0	-7.7	-9.1	22.0	-5.8	2.0	6.9	14.1
Services	20.6	19.6	8.3	-24.6	14.8	-13.4	18.7	-2.4	21.5	-2.7	5.8
Goods	16.1	-12.0	51.5	-30.0	-23.3	-15.4	26.5	-10.3	-25.4	28.8	28.4

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics and The Boston Company Economic Advisors, Inc.

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Table 3
Summary of the Service Economy
(Billions of 1982 Dollars, SAAR, Except Where Indicated)

	1988:2	1988:3	1988:4	1989:1	1989:2	1989:3	1984	1985	1986	1987	1988
Gross National Product	4010.7	4042.7	4069.4	4106.8	4132.5	4162.9	3501.4	3618.7	3717.9	3853.7	4024.4
Services	1862.5	1880.8	1896.7	1905.1	1919.9	1945.0	1625.2	1684.3	1738.8	1803.7	1873.5
Goods and Construction	2148.2	2161.9	2172.7	2201.7	2212.7	2217.9	1876.3	1934.5	1979.1	2050.0	2150.9
Construction	380.2	379.6	383.3	378.5	368.8	366.6	367.1	380.8	386.5	381.1	379.3
GNP—Product Measure *	—	—	—	—	—	—	3501.4	3618.7	3717.9	3853.7	4024.4
Services	—	—	—	—	—	—	2312.0	2407.8	2498.9	2595.4	NA
Goods	—	—	—	—	—	—	1132.3	1176.1	1190.6	1228.9	NA
Manufacturing	—	—	—	—	—	—	757.9	786.8	804.6	839.5	NA
Agri./Mining/Construction	—	—	—	—	—	—	374.4	389.3	386.0	389.4	NA
Consumption Expenditures	2586.8	2608.1	2627.7	2641.0	2653.7	2690.1	2249.3	2354.8	2446.4	2513.7	2598.4
Services	1272.8	1287.0	1295.2	1306.7	1319.0	1332.9	1100.3	1152.3	1183.8	1233.7	1280.2
Goods	1314.0	1321.1	1332.5	1334.4	1334.7	1357.2	1149.0	1202.5	1262.6	1280.0	1318.1
Plant and Equipment Expenditures	431.4	436.0	433.5	451.4	463.5	476.9	358.0	391.6	379.2	394.2	429.6
Services	251.0	251.8	249.4	266.1	271.6	279.2	193.6	213.7	221.2	230.6	248.3
Goods	180.3	184.3	184.1	185.3	191.9	197.7	164.4	177.9	158.0	163.6	181.3
Corporate Profits— Billions of Dollars	235.7	238.9	252.2	233.1	228.5	223.1	203.2	191.4	195.2	208.7	238.1
Services	137.5	143.8	146.7	136.7	141.5	136.5	114.4	111.7	135.8	132.1	139.8
Goods	98.2	95.1	105.5	96.5	90.3	86.6	88.8	79.7	59.5	76.6	98.3
Current Account Balance— Quarterly Rates	-33.5	-32.3	-28.7	-30.4	-32.1	-22.7	-26.0	-28.2	-33.3	-35.9	-31.6
Services Balance	0.8	1.4	8.4	1.5	-1.7	8.7	5.2	6.2	6.9	7.5	3.8
True Services Balance **	4.6	5.3	5.8	5.7	6.3	7.4	5.2	3.4	11.6	11.9	19.0
Exports	22.4	23.4	24.4	25.1	25.7	26.5	13.7	14.2	17.7	19.9	23.0
Imports	-17.8	-18.1	-18.6	-19.4	-19.4	-19.1	-12.4	-13.4	-14.8	-16.9	-18.3
Merchandise Trade Balance	-31.4	-30.3	-32.0	-28.4	-27.6	-27.8	-28.1	-30.5	-36.3	-39.9	-31.8

* *Under revision.*

** *True Services Balance is the balance on Service exports and imports excluding receipts and payments on investments and government transactions.*

Sources: Bureau of Economic Analysis and The Boston Company Economic Advisors, Inc.

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THE COALITION OF SERVICE INDUSTRIES was formed in 1982 to increase public awareness of the expanding role of the service sector in the U.S. economy. One of the priorities of the Coalition is to improve the adequacy of statistical programs in their measurement and analysis of the service sector.

THE SERVICE ECONOMY is a product of the CSI Task Force on Data Collection and Statistical Improvement. Comments or suggestions should be directed to Maria Eli, Editor, at 202/467-3054.

A3842-1

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THE SERVICE ECONOMY

A publication by the Coalition of Service Industries

Vol. 4, No. 2 April 1990

The Service Economy - At Present, Employment Tells the Whole Story

Samuel D. Kahan

Services have become a very important component of the U.S. economy. Twenty years ago, service employment represented only about two-thirds of all workers on non-farm payrolls. At present, employees in these sectors account for three out of every four workers in the United States, and the services market share is expected to increase even further.

Since the recession of 1982, approximately 19 million workers have been added to the total U.S. employment payroll. Nine out of every ten of these added workers have found jobs in the service-producing realm. Although most service-producing sectors have experienced growth, just three categories, retail trade, "services", and state and local government employment absorbed nearly 75 percent of the rise.

The 1989 performance was even more dramatic. Nearly all of the 2.5 million workers that entered the labor force in 1989 found jobs in the service sector. Goods-producing employment rose by a meager 30,000 workers. An increase was eked out only because gains in construction and mining employment were able to offset sizable declines in the number of manufacturing workers. The three sectors that accounted for the bulk of the hiring last year were again retail trade, services, and government employment; the very same groups that had experienced most of the increase since 1982. Table 1 provides a more detailed description of the job growth that has occurred in the 1983-1989 period.

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Many are under the impression that employment growth in the service sectors is steady and sure. An examination of the historical behavior reveals that this perception is incorrect. On the contrary, service employment is not necessarily stable. Examining service employment by more detailed industry category, one finds more volatility than commonly believed. The final column of Table 1 denotes the volatility of the monthly employment changes in the aggregate and for selected sectors.

As expected, on the whole, volatility in the service-producing sector is somewhat less than that of the goods-producing sector. Nevertheless, each of the service-producing categories is either equal to or more volatile than the aggregate. The sector that has recorded the most employment growth, the services sector, has a low volatility because of offsetting values in its constituent parts. For example, within services the volatility of business services, which accounts for 20 percent of employment in the service sector and nearly 7 percent of the total service-producing area, is .39 percent per month (not shown in the table), more than double the national average. The other components of the services category (also not shown in the table) have volatility in excess of .20 percent per month.

NonFarm Payroll Employment Growth and Volatility
(1983 - 1989)

	1983-1989	1989	Standard Deviation of Monthly Growth (% per month)
Growth (thousands of persons)	19,014	2,473	—
Volatility (% per month)	—	—	0.17
Sectoral Shares of Growth:			
Goods-Producing	9.5	0.8	0.28
Manufacturing	4.4	4.0	0.26
Service-Producing	90.5	99.2	0.19
Retail Trade	23.1	15.8	0.20
Services	41.3	48.1	0.15
Government	10.0	14.1	0.19

Source: U.S. Bureau of Labor Statistics

Even though services play such an important role in the U.S. economy, our current measurement of the service sector remains very sketchy. Our impressions of the state of the U.S. economy are influenced by the many monthly releases issued by governmental agencies and some private sector groups. These are biased towards the goods-producing portion of the economy. Of the approximately 25 official monthly releases which the financial markets forecast and to which they react, only six contain meaningful information as to the state of the service economy. Among the most important of these are the labor report, the GNP report and the consumer price index (CPI).

The reason for the reporting bias is simply a lack of sufficient and reliable data. Measuring performance in the service sector, although not impossible, is difficult because of the problems associated with properly calculating output. The diversity of products and businesses involved is also a contributing factor.

Almost by default, reporting what we know or what we think we know about services is based largely on body counts obtained from the monthly employment surveys. Some of this information flows directly from employment, while the rest comes indirectly from employment-related variables.

Without inputs on the number of service workers and the hours worked we would be in the dark as to the state of the service economy. This lack of independent corroborative information is clearly a great handicap in charting the course of the U.S. economy.

The recently released labor market data is a good case in point. Over the first two months of 1990, non-farm payroll employment is estimated to have risen by about 700,000. The service-producing sector has experienced an increase of 570,000 workers. Both of these increases appear robust, at least superficially so. The opening pace of employment in 1990 appears to be running about 3 times faster than the average monthly gain experienced throughout the 1988-1989 period. In reaction to these figures, estimates of real activity in the first quarter have been revised upwards towards the 2 - 2.5 percent range.

But is economic activity that robust? A closer examination of the data raises some interesting questions. About 132,000 workers or 20 percent of the January - February employment increase occurred in the construction industry, considerably more than the 30,000 increase recorded last year. In all likelihood, the large gain reflects the unusually warm weather conditions during that period rather than a resurgence in the building sector. Although manufacturing employment has recorded declines, some of the other sectors may have also benefitted from the favorable climate conditions. The remaining growth, centered in service-producing sectors is also robust. Yet, nearly 86 percent of the employment growth was concentrated in just three segments: retail trade, services, and governmental employment. This is a much higher concentration ratio than has been historically experienced and, consequently, is also suspicious.

The January and February data appear to describe an economy that is expanding much more rapidly than in recent years, but within a very narrow base of service employment. Although it is possible that the tempo of economic activity is indeed quickening, our belief is that overall growth continues to flounder. Unfortunately, there is little outside the employment reports that can clarify the current situation. Instead, one must await the release of additional employment data to verify or to disprove our intuition.

Basing the analysis on employment alone can also lead to false impressions. Many analysts claim that U.S. GNP growth is more stable now that services account for such a large fraction of economic activity. This line of argument flows directly from a focus on employment rather than output. Yet, we know that output variability is greater than employment variability. Also, service employment has been on a continuous upward trend since the Korean War. One way to view fluctuation in services is to examine rates of change rather than levels. The proper basis for analysis is fluctuations in output; but these are not yet available for services, and therefore, the stability theorem still awaits statistical corroboration.

When viewed from an employment perspective, service-producing industries account for approximately 75 percent of overall activity. The importance of services is greatly reduced when viewed from the perspective of spending rather than employment. In terms of final expenditures, output of services represents slightly less than 50 percent of total U.S. output. The output differential

between goods-producing and service-producing sectors is smaller than the employment differential because productivity in the goods sectors of the economy is growing at a significantly higher pace than productivity in the service-producing area. Also, final estimates of goods may be biased upwards because they contain a large component of services associated with goods, particularly in such areas as transportation, and wholesale and retail trade.

In general, it appears that productivity in the goods-producing sectors has risen at approximately a 4 percent per annum rate. By comparison, over the past decade, service productivity has increased by slightly less than half that rate.

While the lack of rapid productivity growth in services seems plausible and should be a cause of concern to policy makers, a certain air of skepticism with regard to the data needs to be maintained. Productivity in the service area is difficult to measure on a consistent basis. What's more, the estimates are frequently revised and, often, upwards. Thus, some of the weakness in the production of services relative to goods may be more statistical than real. Nevertheless, the message that employment tends to misrepresent the true economic situation needs to be emphasized again.

Our impression of the state of the service economy is largely reflective of information obtained concerning employment. This approach provides some significant biases, though the extent remains unclear. An experimental index of service industry output* relies on labor inputs for only half of its input series. This measure serves as a benchmark of what potentially can be accomplished in the future. Until better or alternative sources of data about services become available, one needs to utilize the existing information cautiously.

**Research on the experimental service production indexes was begun by Dr. Zoltan Kenessey, Senior Economist at the Federal Reserve Board, in 1987. The index aims at measuring the quantity changes in the monthly output of total services which is expressed as a percentage in production of the 1977 reference period. Beginning in May 1990, CSI will maintain and circulate this index monthly.*

Research on the index will continue at the Federal Reserve, and the Coalition is hopeful that an expanded version will be incorporated into the federal statistical program at some time in the future.

Outlook 2000

Industry Employment

Ronald E. Kutscher

The U.S. economy is projected to add another 18 million jobs by the year 2000, an average of 1.5 million per year from 1988, according to the latest set of projections developed by the Bureau of Labor Statistics. This rate of employment growth is slower than in the past, when annual job gains averaged 2.3 million over a comparable 12-year period. Slower growth is directly tied to the expectation of a slowdown in labor force expansion over the next decade.

The 18 million new jobs are expected to be added primarily in service-producing sectors. Among the service sector leaders, retail trade is expected to add 3.8 million jobs, private health services 3.0 million, and business services 2.7 million. Government employment, especially in public schools and in state and local safety and general government functions, is also projected to add about 1.6 million new jobs. Despite these gains, the rate of growth for all these divisions from 1988 to 2000 is projected to be much slower than between 1976 and 1988. This slowdown is a continuation of a trend that started in the late 1970s, as the baby-boom generation became fully absorbed into the labor force.

Employment in Major Industry Divisions

Total employment is projected to rise from 118 million in 1988 to 136 million by the turn of the century. Most of these jobs, 122 million, will be wage and salary jobs in the nonfarm sector. Service-producing industries are projected to rise to 79.0 percent of all nonfarm wage and salary jobs, compared with 75.9 percent in 1988. Goods industries are expected to lose in employment share, as they have done for decades.

Employment in the services division—health, personal, and recreational services—is projected to rise from 25.0 million in 1988 to 33.7 million in 2000. This increase accounts for almost one-half of the total projected increase in employment.

Employment by Major Industry Division
(Thousands)

	1976	1988	2000 Moderate	Change 1988-2000 Moderate
Total	89,942	118,104	136,211	18,107
Nonfarm Wage & Salary	79,080	104,960	122,056	17,096
Goods Producing	23,358	25,252	25,680	428
Mining	779	721	705	-16
Construction	3,576	5,125	5,885	760
Manufaturing	19,003	19,406	19,090	-316
Durable	11,080	11,436	11,220	-216
Nondurable	7,923	7,970	7,870	-100
Service Producing	**55,722**	**79,708**	**96,376**	**16,668**
Transportation & Utilities	4,583	5,548	6,096	548
Wholesale trade	4,546	6,029	6,936	907
Retail trade	13,208	19,110	22,875	3,765
Finance, insurance and real estate	4,271	6,677	7,762	1,085
Services	14,243	24,971	33,718	8,747
Government	14,871	17,373	18,989	1,616
Agriculture	3,371	3,259	3,125	-134
Private households	1,398	1,163	1,103	-60
Nonfarm self-employed and unpaid family	6,093	8,722	9,927	1,205

Three alternative scenarios were projected for 2000: a base, or moderate case; a low-growth alternative; and a high-growth alternative. The data discussed in this article pertain to the moderate case scenario.

Ronald Kutscher is Associate Commissioner at the Bureau of Labor Statistics. This article summarizes full details of the projections that appeared in the November 1989 Monthly Labor Review under the title "Industry Output and Employment 2000," by Valerie Personick.

In employment terms retail trade will be the second largest of the major divisions by 2000, surpassing manufacturing as a source of employment. Retail jobs are projected to increase by 3.8 million between 1988 and 2000, raising employment in this sector to 22.9 million.

The government division is projected to add 1.6 million jobs, virtually all at the state and local level. An increase in school enrollments over the next few years is expected to result in 945,000 new jobs in public education. Federal civilian employment has been virtually flat for the past 20 years at 2.7-3.0 million, and is projected to remain at about that level through the end of the century.

Other service-producing industries are projected to add 2.5 million jobs—1.1 million in finance, insurance and real estate, 907,000 in wholesale trade, and 548,000 in transportation, communications, and public utilities. Like the other major divisions, the rate of job gain from 1988 to 2000 is only about half the pace of the previous 12 years.

Medical care. Health care will continue to be one of the most important industry sectors in the economy. Data from the Health Care Financing Administration (HCFA) show that total expenditures for health care (both public and private) topped 11 percent of current dollar GNP in 1987, and may rise to 15 percent by the end of the century.[1] In job terms, this significance is amplified. Employment in the private health services industries rose from 4.4 million in 1976 to 7.1 million in 1988 and is projected to grow to 10.1 million by 2000. The increase in health care jobs between 1988 and 2000 accounts for more than one-sixth of the total payroll job growth projected.

Due to the rapid expansion of health care employment, 7 of the 10 fastest growing occupations between 1988 and 2000 are health-related. Medical assistants, home health aides, radiologic technologists and technicians, physical therapists and medical secretaries rank among the 10 fastest growing of approximately 500 occupations studied.

Profile of Private Health Industries
1988-2000
(Thousands)

	1988	2000	Gain, 1988-2000	Growth rate, Employment
Total health services	7,144	10,139	2,995	3.0
Offices of health practitioners	1,850	2,810	960	3.5
Offices of physicians	1,146	1,843	697	4.1
Offices of dentists	486	575	89	1.0
Other	218	391	173	5.0
Nursing and personal care facilities	1,319	1,907	588	3.1
Hospitals	3,300	4,245	945	2.1
Outpatient facilities and other health services	675	1,177	502	4.7
Medical and dental labs	149	239	90	4.0
Outpatient care facilities	266	475	209	4.9
Other	260	463	203	4.9

Business services. Business services are expected to generate almost as many new jobs as health care over the next 12 years. Employment in business services is projected to rise from 5.6 million in 1988 to 8.3 million by the end of the century. The 2.7 million increase represents almost one out of every six new wage and salary jobs expected to be added between 1988 and 2000. Business services is broken down into nine individual industries in the BLS projection system. The

1. "National health expenditures in 1986", Health Care Financing Review, Summer 1987, pp.1-36.

largest of these and the one projected to add the most new jobs over the next decade is personnel supply service. This includes the temporary help supply industry. Temporary help supply has risen dramatically in the last few years. From 1978, when data was first available for this industry, to 1988 employment multiplied almost threefold, rising from 341,000 to 1,016,000 at a rate of 11.5 percent per year.

Profile of Business Service Industries
1988-2000
(Thousands)

	1988	2000	Gain, 1988-2000	Growth rate, Employment
Total business services	5,570	8,311	2,741	3.4
Advertising	237	330	93	2.8
Services to dwellings	785	1,028	243	2.3
Personnel supply	1,369	2,218	849	4.1
Computer	678	1,200	522	4.9
Research, management, consulting	811	1,190	379	3.2
Detective & protective	464	632	168	2.6
Equipment rental	262	356	94	2.6
Photographic	188	241	53	2.1
Credit and all other	776	1,116	340	3.1

The fastest growing of the business service industries, indeed, the fastest growing in the whole economy, will be computer services. Demand for operations research analysts, computer systems analysts, programmers, and related computer specialists will continue to be very high through the turn of the century. Packaged software products as well as customized computer systems will continue to multiply. An ever-expanding number of industries, firms, governmental agencies, and private individuals are expected to propel the demand for computer and data processing services. Employment in this industry sector is projected to grow by 4.9 percent a year, rising to 1.2 million by 2000.

Education. Education will add almost 1.2 million jobs over the next decade, most of them in the public sector. The increase reflects rising enrollment projected for elementary and secondary schools. School enrollment below the college level mirrors population growth, the elementary school-aged population (ages 5-13) will rise by over 2 million between 1988 and 2000 (almost all of that in the 10-13 age group), and the secondary school-aged (14-17) by about 1.3 million.

Employment in state and local government education was fairly level in the late 1970s and early 1980s as the number of school-aged children dipped. By 1983, however, the youngsters born to the large baby boom cohort started kindergarten and began to put upward pressure on public school facilities. Employment began to edge up, and reached an all-time high of 7.3 million in 1988. As these children advance through intermediate and secondary schools, employment in state and local government education is expected to climb to 8.3 million by the year 2000.

Employment in private colleges and universities has been rising even faster than enrollments, with over 200,000 jobs added between 1983 and 1988 to reach 964,000. Part of the explanation for this large employment increase has been a rise in the proportion of part-time instructors in institutions of higher education.[2] Employment in all of private education, which includes private elementary and secondary schools, vocational schools, and miscellaneous training programs as well as colleges and universities, is projected to go up another 223,000 by the year 2000.

2. *Projections of Education Statistics to 1997-98*, CS 88-607, (National Center for Education Statistics), September 1988, p. 73.

Related to the educational sector is the private child care industry. The rapid growth of this sector in the 1980s has been linked to the rising labor force participation rates of mothers with young children and to the large increase in the absolute number of children under age 5. Future growth is projected to be slower due to the expected 1.4 million decline in the under age 5 population during the next 12 years.

Retail trade. Retail trade is projected to add 3.8 million new jobs between 1988 and 2000, second only to services among all major industry divisions. The number of retail trade jobs is projected to reach almost 23 million by 2000, accounting for almost 1 out of every 5 wage and salary jobs in the economy. Further, many self-employed workers are found in the retail trade sector as well, adding 1.9 million to the total in that sector in 2000.

Eating and drinking places is the largest industry within the retail trade division, and one of the fastest growing. Payroll employment is projected to rise 1.8 percent a year in eating and drinking places to reach 7.8 million by 2000. This rate of growth, however, is slower than historical increases in eating and drinking jobs. The major reason for this is the slowdown in population growth, which has limited demand for new restaurants. Another is that the market may be reaching saturation, especially the fast-food market. Finally, part of the employment growth historically was related to an increasing proportion of part-time workers, a trend which is expected to taper. Evidence already indicates that the shift to part-timers may be slowing, in that average weekly hours in eating and drinking places are not falling as rapidly in recent years as they have for the past three decades. This trend holds for other retail trade establishments as well.

Other service producing industries. The finance, insurance, and real estate sector is projected to add almost 1.1 million payroll jobs between 1988 and 2000, bringing employment in that sector to 7.8 million by the turn of the century. The fastest-growing industry within the financial sector is expected to be security and commodity brokers and exchanges, but the 3.0 percent annual employment growth rate projected is sharply lower than the rate in recent years in this industry, when employment expanded about 10 percent a year.

Other industries in the services division expected to show sizable employment increases include hotels (410,000 more jobs), legal services (329,000), residential care (224,000), engineering and architectural services (222,000), amusements and recreation (202,000), and accounting services (200,000).

SERVICES ECONOMIC HIGHLIGHTS

CSI

Allen Sinai
Chief Economist, Boston Company Economic Advisors, Inc.

Services At a Glance

- ***Services GNP Measured by Expenditures***—or the service component of expenditures by consumers, businesses, government and the net service export balance grew a brisk 6.0% in the fourth quarter compared to 5.3% in the third quarter.

- The ***Service Sector Leading Index***—which leads activity by about six months—increased to a 2.4% growth rate in January, up from 1.7% in December. The annual growth rate of the coincident index, reflecting current economic conditions for the service sector, was 2.4%.

- ***Employment*** in service industries continues to grow nicely. At 84.6 million, February service sector employment increased 221,000 persons from January, and was up by 2.4 million persons from the same month a year ago.

- ***Personal Consumption Expenditures On Services*** maintained strong growth in the fourth quarter, up 5.9% from the third quarter. Personal consumption of goods fell 4.6%, led by autos.

- ***Prices of Consumer Services*** for February increased 5.1% from the level a year earlier and were up 0.4% from the previous month. Services inflation seems entrenched.

- The ***Services Stock Price Index*** in February declined 3.8% from January, but was up 13.6% compared to year ago levels.

- ***Profits in Service Industries*** dropped 15.2% in the October-December period, following a 13.4% decline in the previous quarter. Goods sector profits fell a huge 36.2%—the fourth quarterly decline in a row.

- ***True Services Exports*** increased by $488 million in the fourth quarter, bringing the total to a record-high $27.2 billion, surpassing the previous record of $26.7 billion the quarter before. The U.S. is very competitive in services.

Bottom Line: Service sector growth accelerated in the fourth quarter of 1989, and services activity was strong in almost all areas, including foreign trade. Thereare few signs of any deterioration in the near term. Service sector inflation is running high at over 5%, and profits are under pressure due to high and rising labor costs, indicating the service economy may be somewhat overheated.

The Service Economy refers to the total economy, in which the Service Sector is the dominant factor. The Service Sector economy comprises 68% of real production GNP and 76% of employment. Major segments are: Communications; Transportation; Public Utilities; Finance, Insurance and Real Estate; Wholesale and Retail Trade; Government; and "Service," a diverse category including Business Services, Personal Services, Professional and Health Services.

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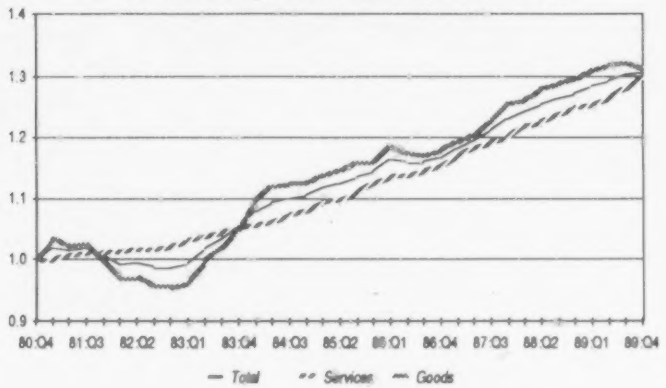
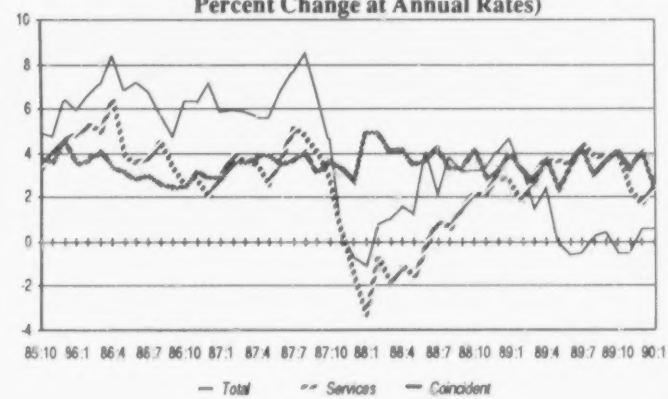
Chart 1
Real Gross National Product
(Total and by Sector, Indices, 1980:4 = 1.0)



Services GNP Growth Remains Strong

In the fourth quarter of 1989, services GNP—measured by expenditures—increased 6%, following a 5.3% rise in the third quarter. The goods component, including construction, fell 3.1%—the first decline since 1986—after expanding by a modest 0.9% in the previous quarter. Total GNP growth slowed to 1.1%, from 3% in the third quarter.

Chart 2
Leading Economic Indicator Indices
(Total Economy and Service Sector, Six-Month Smoothed, Percent Change at Annual Rates)

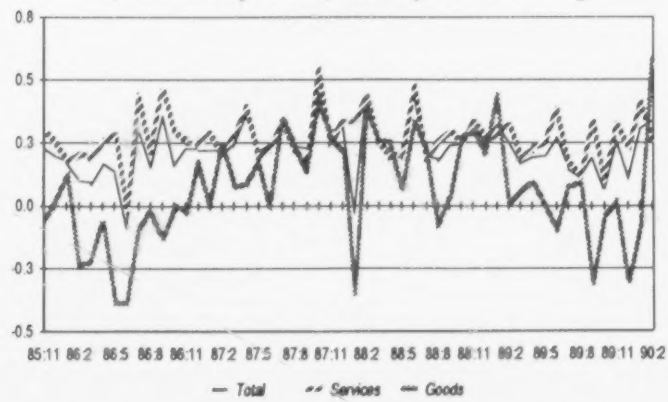


Services Leading Indicator Up 2.4%

The leading index for the service sector rose 2.4% in January, following a 1.7% increase in December. Meanwhile, the coincident index for services slowed to a 2.4% rate, after a large 4.1% rise the previous month. The leading indicator for the total economy rose 0.6%, the same as in December.

The Service Sector Indices are produced by the Center for International Business Cycle Research, Columbia University.

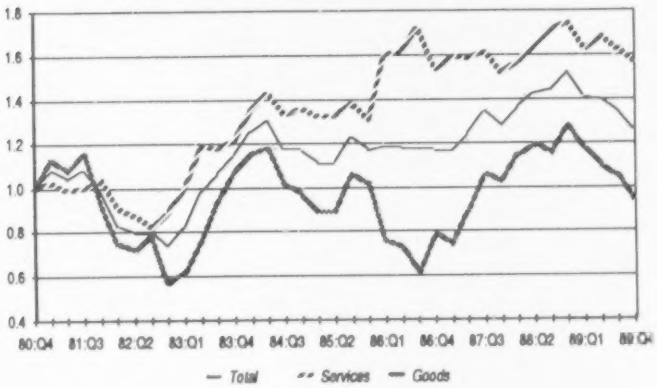
Chart 3
Employment Growth
(Total and by Sector, Monthly Percent Change)



Service Sector Employment Posts Record High

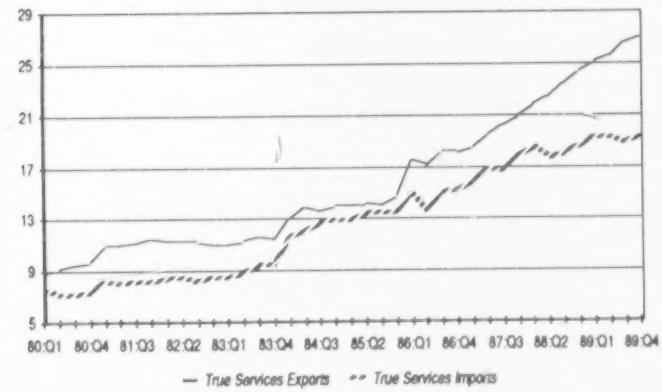
In February, employment in service industries reached a record-high 84.6 million persons, up 221,000 from January. Goods sector employment rose 151,000 persons to 25.7 million, after reporting declines in the previous two months. For the first two months of the year, service sector employment rose a large 572,000, while goods sector employment increased a modest 132,000.

Chart 4
Corporate Profits For Domestic Industries
(Total and by Sector, Indices, 1980:4 = 1.0)



Service Sector Profits Down 15.2%
Fourth-quarter profits of service industries declined 15.2%, following a 13.4% decline in the third quarter. Profits in goods sectors also continued to fall. In the latest three-month period, goods sector profits plunged 36.2%, contributing most to the 23.9% drop in corporate profits for all industries. In 1989 corporate profits declined 2.4% below 1988 levels.

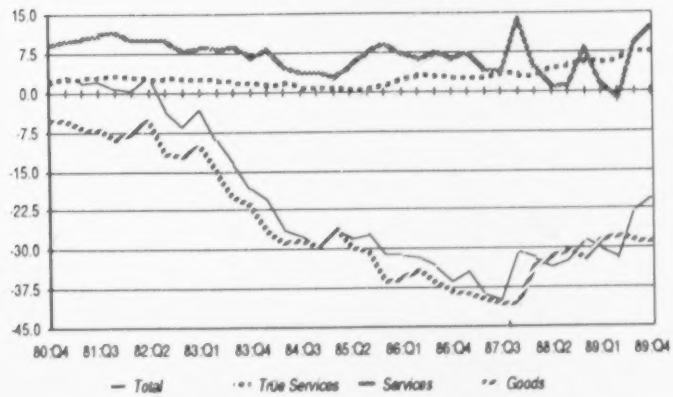
Chart 5
True Services Balance
(Billions of Dollars)



"True Services"* Trade Surplus Remains High
At $7.8 billion, the true services surplus in the last quarter of the year was $20,000 higher than the previous record-high reported in the third quarter. True services exports and imports rose $27.2 billion and $19.3 billlion, from $26.7 billion and $18.9 billion. In 1989, true services trade was a record $27.7 billion, up from $19.0 billion in 1988.

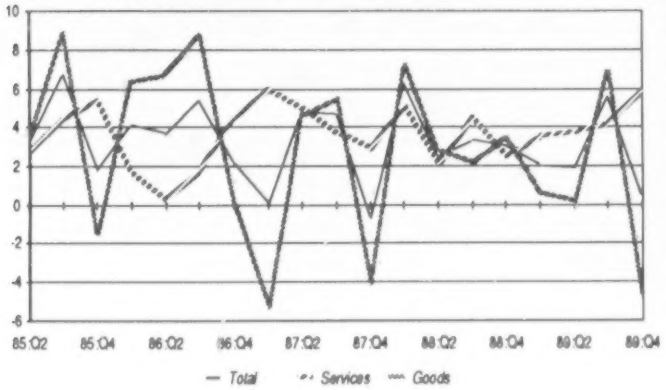
** True services trade refers to nonfinancial trade floors such as travel and passenger fares.*

Chart 6
Current Account Balance and Components
(Billions of Dollars)



Services Surplus Soars
The overall services trade surplus increased to $12.7 billion from $9.1 billion, in turn helping reduce the current account deficit to $20.6 billion from $22.9 billion. The surge in the services surplus was the result of a 1.5% gain in exports to $67 billion and a modest 0.9% increase in imports to $54.3 billion. The goods or merchandise trade deficit having widened to $28.8 billion, from $28.6 billion.

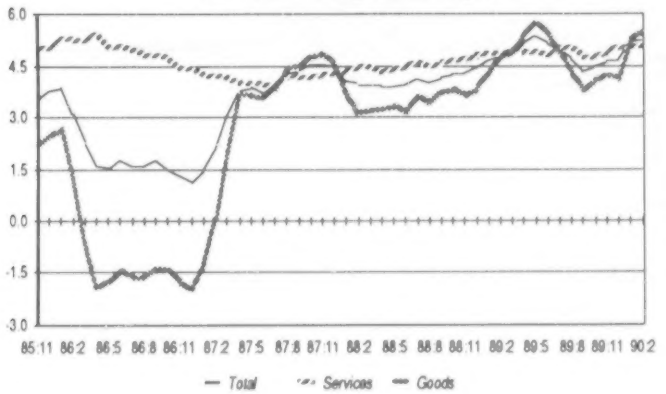
Chart 7
Real Personal Consumption Expenditures
(Quarterly Percent Change, Annual Rates)



Spending on Services

Personal consumption expenditure on services continued to be robust, increasing an inflation-adjusted 5.9% in the last quarter of 1989, following a strong 4.3% growth rate over the previous three months. Spending on goods plunged 4.6% in the fourth quarter, resulting in a mere 0.5% increase in overall spending, compared to the 5.6% overall rate in the previous quarter.

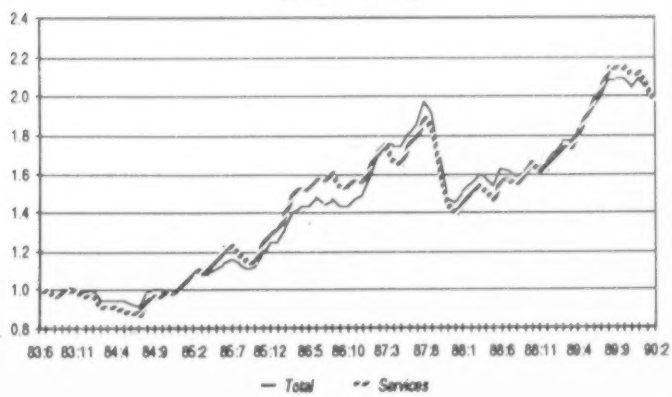
Chart 8
Consumer Price Indices
(Percent Change, Year Ago)



Service Inflation Up 5.1%

On a year-over-year basis, prices in the service component of the Consumer Price Index (CPI-U) were up 5.1% in February, a slight acceleration from the 5% rate reported in January. Goods prices in the CPI-U were up 5.5%, also a small acceleration over January. Services price inflation seems well-entrenched.

Chart 9
S&P 500 and Services Stock Price Indices
(1983:6 = 1.0)



Stock Prices Fall

In February, the S&P 500 stock price and services price indices fell 2.8%, and 3.8%, respectively, from the previous month, after similar declines in January. Compared to their year earlier levels, the services stock price index was 13.6% higher, while the overall S&P index was up 12.8%.

The Services Stock Price Index is based on S&P indices for 13 service industries and is compiled by the Center for International Business Cycle Research.

SERVICES VERSUS GOODS PRODUCTION AN INTERNATIONAL COMPARISON

by Allen Sinai and Zaharo Sofianou

The United States has been described in a rather unflattering way as a nation whose people "take in each other's laundry." The proponents of this view suggest that because almost 77 percent of the U.S. labor force is employed in the service sector, and 65 percent of gross domestic product (GDP) is produced in the form of services, the country must be in decline.

In fact, economic theory and practice indicate that quite the opposite is true. Traditionally, a nation's service sector is the last to develop, following the development of the manufacturing and agriculture sectors. In a less developed economy, the agricultural sector dominates, while a newly industrialized country is one step ahead, and is characterized by a growing manufacturing sector. An advanced, or developed country typically has a large service sector. The reason for this is that the need for food and durable goods comes first. If there is income left over once essential needs have been met, one can buy personal services or entertainment. Usually the number and variety of services increases as a country becomes more developed.

This study, which compares the sources of gross domestic product in six countries, indicates that the United States is not the only advanced country with a large service sector. Indeed, all six developed countries included here have service sectors producing over half their GDP.

In brief, the results of the study indicate:

1) All six advanced countries have large service sectors that accounted for over 50 percent of their GDP production in 1987.
2) In each country, the service sector grew as a proportion of GDP between 1960 and 1987, but not dramatically.
3) In the U.S., Japan, Canada, and Italy, the private service sector increased by a relatively large amount at the expense of the government sector. In France, the government sector showed a large increase at the expense of the private sector during the extensive nationalization program under the 1981 socialist government, headed by President Mitterand. Later data will likely demonstrate shrinkage of the government sector following privatization of government assets by the conservative government under Premier Chirac, beginning in 1986.
4) For all countries, the contribution of the goods-producing sector declined as a percent of GDP between 1960 and 1987; however, the largest component of the total goods-producing sector, manufacturing, remained essentially unchanged for all countries with the exception of Japan, where it increased.
5) In Japan, the proportion contributed to GDP by the overall goods and service-producing sectors remained almost unchanged between 1960 and 1987, but there were significant changes within the sectors. Manufacturing output more than doubled

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as a percent of GDP, while other goods-producing industries, particularly agriculture, declined. Similarly, private service activity increased at the expense of government services.

6) For all countries included in the study, the contribution of the agriculture, mining, and construction sectors declined as a percent of GDP between 1960 and 1987.

Table 1
Contribution of the Service-Producing Sector to GDP
(Percent)

	1960	1987	Change (Percentage Points)
United States – Total	59.5	66.7	7.2
Private Sector	45.5	55.8	10.3
Japan – Total	55.8	56.5	37.0
Private Sector	42.6	49.2	6.6
Germany – Total	49.6	58.8	9.2
Private Sector	37.6	46.7	9.1
Canada – Total	58.4	62.9	4.5
Private Sector	38.9	48.5	9.6
Italy – Total	54.7	60.5	5.8
Private Sector	41.5	49.6	8.1
France – Total	55.4	66.0	10.6
Private Sector	41.6	48.9	7.3

Source: The Boston Company Economic Advisors, Inc.

The Service Sector—
An International Comparison

The source of the data for the six countries studied is the Organization for Economic Cooperation and Development (OECD), which adjusts national data to facilitate international comparison. While differences between country production measures have been eliminated as much as possible, problems still exist. The United States, for example, is revising the methodology used to collect and report production data for goods and services. As a result, while the figures are the best currently available, they are not fully comparable across countries.

All of the six countries in the study experienced service sector expansion between 1960 and 1987, although growth appears relatively small for a span of twenty-seven years. In each country, the change in composition within the overall goods and service sectors is of particular interest.

In the United States, Japan, Canada, and Italy the increase was in the private service sector, while activity in the government sector declined. In Germany, government service activity remained almost unchanged, while private service activity increased a large 9.1 percentage points.

At the same time, in 1987 Japan's private service sector contributed 49.2 percent of Japan's GDP. This figure is somewhat lower than the 55.8 percent contribution made by the U.S. private service sector to GDP, but quite similar to the private service sector contribution to GDP made by the other four countries.

Which Service Sectors Expanded Most?

In each country, the category that expanded the most is finance, insurance and real estate (FIRE). In the United States, FIRE contributed 20.7 percent of GDP in 1987, up from 15.7 percent in 1960, while in Italy the contribution of FIRE to GDP was even larger in 1987 at 22.1 percent, up from 17.8 percent in 1960. In Japan, the increase was 3.2 percentage points to 15.3 percent; in Germany, 3.7 points to 12.1 percent of GDP; in Canada 4.5 percentage points to 18.5; and in France the increase was 6.4 percentage points to 18.8. Although data for each sector are not available for all countries, in the United States much of the overall increase in the FIRE category occurred in real estate.

In Japan, retail and wholesale trade developed particularly fast, increasing from 6 percent of GDP in 1960 to 14.5 percent in 1987. This rapid development has only brought the Japanese retail and wholesale trade sector into line with other developed countries, where the range is from 17.1 percent in the United States, to 10 percent in Germany.

Table 2
Contribution of the Goods-Producing Sector to GDP
(Percent)

	1960	1987	Change (Percentage Points)
United States – Total	39.2	32.2	-7.0
Manufacturing	20.2	22.2	2.0
Japan – Total	44.2	43.5	-0.7
Manufacturing	16.8	33.5	16.7
Germany – Total	50.4	41.2	-9.2
Manufacturing	33.7	32.6	-1.1
Canada – Total	46.8	37.1	-9.7
Manufacturing	19.9	19.9	0.0
Italy – Total	45.3	39.5	-5.8
Manufacturing	23.7	27.9	4.2
France – Total	44.6	34.0	-10.6
Manufacturing	24.7	22.2	-2.5

The Goods Sector

For all six countries, the goods-producing sector declined between 1960 and 1987. But with the exception of Germany, in 1960 the goods sector already contributed less than 50 percent in each country, and in Germany goods accounted for just a fraction more.

Manufacturing is the largest industry within the goods-producing sector, and for all countries except Japan, the contribution of manufacturing to GDP remained essentially unchanged between 1960 and 1987, while the other goods-producing areas declined. In Japan, manufacturing doubled to 33.5 percent of GDP in 1987 from 16.8 percent in 1960. Another country with a notable increase in its manufacturing sector was Italy, where manufacturing as a percent of GDP increased 4.2 percentage points to 27.9 percent.

In both Italy and Japan, increases in manufacturing were made at the expense of other goods-producing industries, with agriculture experiencing the largest decline. In both countries agriculture's contribution to GDP was relatively large in 1960, compared to the other countries in the study. For Japan, the agricultural contribution was 16.5 percent, and for Italy 11.5 percent, compared to 4.4 percent for the United States, 3.7 percent for Germany and 7.5 percent for Canada. In 1987, the agricultural contribution to GDP declined in Japan and Italy to 2.9 percent and 5.6 percent respectively. Mining and construction declined as a percent of GDP for all countries in the study.

U.S.-Japan Comparison

A brief comparison of the goods and services sectors in the United States and Japan shows that although there are large differences between the two countries, there are also some similarities. The most striking difference is that in Japan the proportion of output contributed by the goods and the services sectors has remained almost unchanged between 1960 and 1987, while in the case of the U.S. (and all other countries in the study), the contribution of the goods sector to GDP declined over the same period.

A second point, relevant only to Japan, is that the share of the manufacturing sector increased a large 16.6 percent between the two observation periods, from 16.8 percent of GDP to 33.5 percent, while that of the United States remained almost unchanged at just over 20 percent. Much of the

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Table 3
Industry Share in the U.S. and Japan
(Percent of Total Industry Output)

	United States			Japan		
	1960	1987	Change (Percentage Points)	1960	1987	Change (Percentage Points)
Goods	39.2	32.2	-7.0	44.2	43.5	-0.7
Agriculture, Hunting, Forestry and Fishing	4.4	2.7	-1.7	16.5	2.9	-13.6
Mining and Quarrying	5.1	2.8	-2.3	1.1	0.4	-0.7
Manufacturing	20.2	22.2	2.0	16.8	33.5	16.6
Wood and Wood Products, incl. Furniture	0.8	1.0	0.1	—	—	—
Paper and Paper Products, Printing & Publishing	2.1	2.0	0.0	0.5	0.9	0.4
Chemicals, Chemical Petroleum, Coal, Rubber & Plastic Products	2.2	3.2	1.0	1.2	4.4	3.2
Non-metallic Mineral Products, ex Petroleum & Coal Products	0.8	0.6	-0.2	0.9	1.0	0.1
Basic Metal Industries	2.5	1.0	-1.5	1.5	3.2	1.7
Fabricated Metals, Machinery, & Equipment	7.5	10.9	3.4	3.0	16.8	13.9
Construction	9.5	4.5	-5.0	9.8	6.8	-3.0
Services	59.5	66.7	7.2	55.8	56.5	0.7
Government Services	14.0	10.8	-3.2	13.2	7.3	-5.9
Private Services	45.5	55.8	10.4	42.6	49.2	6.6
Electricity, Gas, and Water	1.9	2.5	0.6	2.3	2.4	0.1
Wholesale and Retail Trade, Restaurants and Hotels	15.2	17.7	2.4	6.0	14.5	8.4
Transport, Storage, and Communication	5.2	6.1	0.9	5.5	5.6	0.1
Finance, Insurance, Real Estate, & Business Services	15.7	20.7	5.0	12.1	15.3	3.2
Financial Institutions	2.1	2.7	0.6	—	—	—
Insurance	2.0	2.1	0.1	—	—	—
Real Estate & Business Services	11.6	16.0	4.4	—	—	—
Community, Social and Personal Services	7.4	8.8	1.4	16.7	11.3	-5.3

* *Mining and Quarrying figure is from 1986.*
** *Figure is from 1961.*

Source: The Boston Company Economic Advisors, Inc.

increase in the Japanese manufacturing sector was contributed by one industry, *fabricated metals, machinery and equipment,* which increased 13.9 percent between 1960 and 1987.

While the Japanese manufacturing sector grew as a percent of total output, the agriculture sector declined from a relatively large 16.8 percent of GDP in 1960 to 2.9 percent in 1987. The construction and mining sectors of both countries declined over the period 1960 to 1987.

The United States' service sector grew 7.2 percent of total GDP while the Japanese service sector remained unchanged. In both countries there was a decline in the government sector and an increase in private services. For Japan, the decline in government services was a 5.9 percent, almost double the 3.2 percent decline for the United States. The Japanese private service sector contribution to GDP increased 6.6 percent. This is a significant amount when compared to the relatively small increase overall in the Japanese service sector. In the U.S., private services increased a large 10.4 percent.

Conclusion

In general, a developed country is characterized by a developed service sector. In particular, the service sector in advanced economies is dominated by activity in finance, insurance and real estate, and in retail and wholesale trade, while the service sector in less developed countries includes more household and personal activities.

Although the service sector in all six developed countries studied grew to over 50 percent of GDP between 1960 and 1987, the contribution of the manufacturing sector remained essentially unchanged, while other goods-producing areas such as mining, construction and agriculture declined. Japan was the exception where output contributed by manufacturing doubled between 1960 and 1987.

Over the next few years, as more data become available, it will be interesting to note whether the Japanese manufacturing sector will continue its robust pace, or begin to decline as a result of pressure from imports and diversion of production abroad.

THE COALITION OF SERVICE INDUSTRIES was formed in 1982 to increase public awareness of the expanding role of the service sector in the U.S. economy. One of the priorities of the Coalition is to improve the adequacy of statistical programs in their measurement and analysis of the service sector.

THE SERVICE ECONOMY is a product of the CSI Task Force on Data Collection and Statistical Improvement. Comments or suggestions should be directed to Maria Eli of CSI, at 202/467-3054.

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Table 1
Summary of the Service Economy
(Monthly Indicators)

	1989:9	1989:10	1989:11	1989:12	1990:1	1990:2	1985	1986	1987	1988	1989
Total Employment—Millions	109.1	109.2	109.5	109.6	109.9	110.3	97.5	99.5	102.2	105.6	108.6
Services	83.5	83.6	83.8	84.0	84.4	84.6	72.7	75.0	77.5	80.3	82.9
Goods	25.6	25.6	25.6	25.5	25.5	25.7	24.9	24.6	24.7	25.2	25.6
Total Wages and Salaries—											
Billions of Dollars	2668.4	2693.4	2694.7	2712.2	2725.2	2748.7	1975.4	2094.8	2249.4	2429.0	2631.1
Services	1923.8	1941.5	1945.8	1963.8	1978.5	1992.4	1366.5	1469.2	1599.4	1732.7	1892.9
Goods	744.6	751.9	748.9	748.4	746.7	756.3	608.9	625.6	649.9	696.3	738.2
Total Wages and Salaries—											
%Change, Year-Over-Year	8.2	7.9	7.7	7.8	7.1	7.5	7.4	6.0	7.4	8.0	8.3
Services	9.3	9.0	8.8	8.9	8.4	8.7	8.4	7.5	8.9	8.3	9.2
Goods	5.6	5.0	4.9	4.8	3.6	4.4	5.4	2.7	3.9	7.1	6.0
Consumer Price Index—All Urban,											
%Change, Year-Over-Year	4.3	4.5	4.7	4.6	5.2	5.3	3.5	1.9	3.7	4.1	4.8
Services	4.8	4.8	4.9	5.1	5.0	5.1	5.1	5.0	4.1	4.6	4.9
Goods	3.8	4.1	4.2	4.1	5.3	5.5	2.1	-1.0	3.2	3.5	4.7
Services Leading Indicator Index (%)*	3.9	3.9	2.4	1.7	2.4	NA	3.3	4.9	2.3	0.2	3.2
Leading Economic Indicator Index—Total (%)*	0.4	-0.5	-0.4	0.6	0.6	NA	2.0	6.6	5.9	1.9	1.5
Services Coincident Indicator Index (%)*	3.6	4.1	3.3	4.1	2.4	NA	3.8	3.3	3.6	3.8	3.4
Service Industries Stock Price Index	122.1	122.6	120.1	120.6	116.5	112.1	66.2	86.3	95.6	88.3	111.5
S&P 500 Stock Price Index	347.3	347.4	340.2	348.6	340.0	330.5	186.8	236.3	286.8	265.8	322.8

* *Growth rate expressed in six-month smoothed percent changes at annual rate.*

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Center for International Business Cycle Research and The Boston Company Economic Advisors, Inc.

Table 2
Summary of the Service Economy
(Percent Change, SAAR, Except Where Indicated)

	1988:3	1988:4	1989:1	1989:2	1989:3	1989:4	1985	1986	1987	1988	1989
Gross National Product	3.2	2.7	3.7	2.5	3.0	1.1	3.4	2.7	3.7	4.4	3.0
Services	4.0	3.4	1.8	3.1	5.3	6.0	3.6	3.2	3.7	3.9	3.3
Goods and Construction	2.6	2.0	5.4	2.0	0.9	-3.1	3.1	2.3	3.6	4.9	2.7
Construction	-0.6	4.0	-4.9	-9.9	-2.4	4.2	3.7	1.5	-1.4	-0.5	-2.2
GNP—Product Measure	—	—	—	—	—	—	3.4	2.7	3.7	4.4	3.0
Services	—	—	—	—	—	—	4.1	3.8	3.9	NA	NA
Goods	—	—	—	—	—	—	3.9	1.2	3.2	NA	NA
Manufacturing	—	—	—	—	—	—	3.8	2.3	4.3	NA	NA
Agri./Mining/Construction	—	—	—	—	—	—	4.0	-0.8	0.9	NA	NA
Consumption Expenditures	3.3	3.0	2.0	1.9	5.6	0.5	4.7	3.9	2.8	3.4	2.7
Services	4.5	2.6	3.6	3.8	4.3	5.9	4.7	2.7	4.2	3.8	3.7
Goods	2.2	3.5	0.6	0.1	6.9	-4.6	4.7	5.0	1.4	3.0	1.8
Plant and Equipment Expenditures	4.4	-2.3	17.5	11.2	12.1	NA	9.4	-3.2	4.0	9.0	NA
Services	1.2	-3.7	29.6	8.7	11.7	NA	10.4	3.5	4.3	7.7	NA
Goods	9.1	-0.3	2.5	14.9	12.7	NA	8.2	-11.2	3.5	10.8	NA
Corporate Profits—Current Dollars											
%Change, Year-Over-Year	5.5	24.2	-27.0	-7.7	-9.1	-23.9	-5.8	2.0	6.9	14.1	-5.9
Services	19.6	8.3	-24.6	14.8	-13.4	-15.2	-2.4	21.5	-2.7	5.8	-2.4
Goods	-12.0	51.5	-30.0	-23.3	-15.4	-36.2	-10.3	-25.4	28.8	28.4	-10.8

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics and The Boston Company Economic Advisors, Inc.

Table 3
Summary of the Service Economy
(Billions of 1982 Dollars, SAAR, Except Where Indicated)

	1988:3	1988:4	1989:1	1989:2	1989:3	1989:4	1985	1986	1987	1988	1989
Gross National Product	4042.7	4069.4	4106.8	4132.5	4162.9	4174.1	3618.7	3717.9	3853.7	4024.4	4144.1
Services	1880.8	1896.7	1905.1	1919.9	1945.0	1973.5	1684.3	1738.8	1803.7	1873.5	1934.5
Goods and Construction	2161.9	2172.7	2201.7	2212.7	2217.9	2200.6	1934.5	1979.1	2050.0	2150.9	2209.2
Construction	379.6	383.3	378.5	368.8	366.6	370.4	380.8	386.5	381.1	379.3	370.9
GNP—Product Measure *	—	—	—	—	—	—	3618.7	3717.9	3853.7	4024.4	4144.1
Services	—	—	—	—	—	—	2407.8	2498.9	2595.4	NA	NA
Goods	—	—	—	—	—	—	1176.1	1190.6	1228.9	NA	NA
Manufacturing	—	—	—	—	—	—	786.8	804.6	839.5	NA	NA
Agri./Mining/Construction	—	—	—	—	—	—	389.3	386.0	389.4	NA	NA
Consumption Expenditures	2608.1	2627.7	2641.0	2653.7	2690.1	2693.7	2354.8	2446.4	2513.7	2598.4	2669.6
Services	1287.0	1295.2	1306.7	1319.0	1332.9	1352.2	1152.3	1183.8	1233.7	1280.2	1327.7
Goods	1321.1	1332.5	1334.4	1334.7	1357.2	1341.4	1202.5	1262.6	1280.0	1318.1	1341.9
Plant and Equipment											
Expenditures	436.0	433.5	451.4	463.5	476.9	NA	391.6	379.2	394.2	429.6	NA
Services	251.8	249.4	266.1	271.6	279.2	NA	213.7	221.2	230.6	248.3	NA
Goods	184.3	184.1	185.3	191.9	197.7	NA	177.9	158.0	163.6	181.3	NA
Corporate Profits—											
Billions of Dollars	238.9	252.2	233.1	228.5	223.1	208.4	191.4	195.2	208.7	238.1	224.1
Services	143.8	146.7	136.7	141.5	136.5	131.0	111.7	135.8	132.1	139.8	136.4
Goods	95.1	105.5	96.5	90.3	86.6	77.4	79.7	59.5	76.6	98.3	87.7
Current Account Balance—											
Quarterly Rates	-32.3	-28.7	-30.4	-32.0	-22.9	-20.6	-112.7	-133.3	-143.7	-126.5	-105.9
Services Balance	1.4	8.4	1.5	-1.6	9.1	12.7	24.9	27.6	30.0	15.3	21.7
True Services Balance **	5.3	5.8	5.7	6.3	7.8	7.8	3.4	11.6	11.9	19.0	27.7
Exports	23.4	24.4	25.1	25.7	26.7	27.2	56.9	70.9	79.4	92.1	104.6
Imports	-18.1	-18.6	-19.4	-19.3	-18.9	-19.3	-53.6	-59.3	-67.5	-73.1	-76.9
Merchandise Trade Balance	-30.3	-32.0	-28.4	-27.5	-28.6	-28.8	-122.1	-145.1	-159.5	-127.2	-113.2

* *Under revision.*

** *True Services Balance is the balance on Service exports and imports excluding receipts and payments on investments and government transactions.*

Sources: Bureau of Economic Analysis and The Boston Company Economic Advisors, Inc.

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THE SERVICE ECONOMY

A publication by the Coalition of Service Industries

Vol. 4, No. 3 July 1990

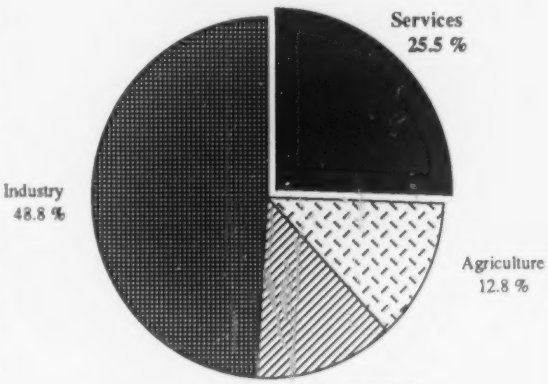
Poland's Services Trade and Policy Options for the Uruguay Round

Jaroslaw Pietras

Service Industries in Poland

The service sector in Eastern Europe is distinctly underdeveloped in terms of employment, contribution to national product and capital formation. As a result of the once-accepted Marxist concept of surplus value and related concepts of productive and non-productive activities, few services are considered productive contributors to Net Material Product (NMP). Generally, the category of "productive" or material services includes construction, transportation, communication, trade and some communal services (material utilities). Housing, science, education, culture and art, health and social welfare, tourism and recreation are considered "non-productive" services, and are not included in statistics on NMP. This method of measuring economic activity discouraged the development of non-productive services in all Soviet-modelled economies.

Figure 1
Polish National Income
1988



Source: "Poland. Statistical Data" Warsaw

In 1988, services represented a modest share of Polish national income, (see Figure 1). Nearly half was attributed to industry, while construction and agriculture represented almost 13 percent each. Services accounted for the remaining 25 percent. This distribution of national income is char-

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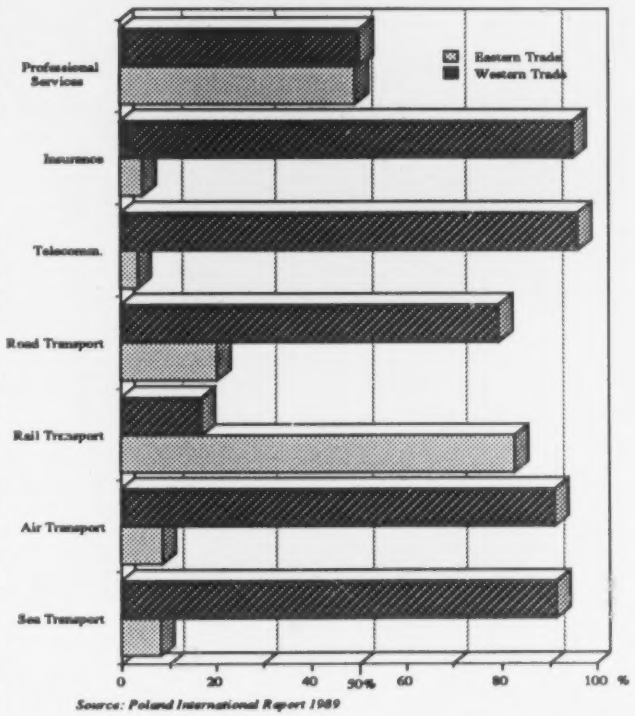
acteristic of all command economies, however, many services purchased from other economic units have been integrated into industrial enterprises, and are under represented in the data.

In addition, services have been subjected to strict regulation in Poland, and in most circumstances are highly monopolized. In the past, regulation was usually aimed at limiting competition, and a monopoly position was often secured by authorities even if quality and demand were low. The transformation of the Polish economy and reconstruction efforts have created enormous pressure to develop both consumer and producer services such as banking, insurance, and wholesale and retail trade.

Figure 2
Direction of Polish Service Exports



Source: Poland International Report 1989

International Service Transactions

Traditionally international service transactions have played a modest role in centrally planned economies, and have never captured an important portion of foreign commercial transactions. According to balance of payments statistics, services accounted for 13.8 percent of all trade receipts and 10.1 percent of payments in 1982, increasing to 15.1 percent of receipts and 15.8 percent of payments in 1988. The traditional services related to production and distribution of trade in goods dominated. Shipment accounted for the largest contribution to foreign service transactions, amounting to almost 40 percent of total exports in 1988, and 16 percent of imports. When payments for "other transportation" are added, the joint share of exports reached 51.3 percent, with imports totalling 48.3 percent. It is interesting to note that Poland's primary trading partners in the area of services are highly developed economies outside of COMECON. Apart from railroad transportation and professional and technical services, Polish service exports and imports are directed chiefly toward western industrialized countries. (See Figure 2).

Service transactions in Polish balance of payments statistics were further underestimated because only payments and expenditures as registered by banks were included. For many service sectors, i.e. telecommunications, the total value of transactions was indicated only as surplus or deficit. In addition, some businesses maintained foreign bank accounts for receipts from international operations in order to avoid currency exchange restrictions, and did not disclose information for statistical purposes. It is estimated that during the 1970s, only about 80 percent of payments for services were registered in the balance of payments. At the beginning of the 1980s the situation was even worse.

Moreover, the data for all transactions are divided into two different payment systems, one for payments in convertible currency, and another for non-convertible currency. Discriminatory pricing in the service sector, where prices of many services depended on the nationality of the buyer or seller[1], further complicated the economic picture.

Protectionism Discourages Innovation

There are a few service industries in Poland that have maintained long-term positive balances in international transactions. These include transportation, communication, and professional and technical services. However, there is some concern that even modest liberalization of services trade will cause these surpluses to disappear. According to available information, post and telecommunication services, which account for approximately 2 percent of total service trade, have maintained a constant surplus in revenues. The poor quality of postal and telecommunication equipment in Poland, and the general inefficiency in these sectors indicate that the surplus is due largely to significant restrictions on imports.

Share of Service Transactions in Total Polish Trade in Services (%)

	1982		1986	
Category of Service	Exports	Imports	Exports	Imports
Transportation & Communication	69	66	61	57
shipping	34	42	25	33
railway services	20	12	13	8
road transport	2	2	2	2
air transport	3	6	4	7
forwarding	2	3	3	1
post & telecomm.	3	1	3	1
Travel	4	8	7	9
Other Official Services	3	3	3	3
Other Private Services	24	22	28	28
insurance	7	9	6	8
commissions	1	3	1	4
technical & professional	13	2	14	2
Unallocated	—	.	1	3

Source: Jan Maciejewicz, "Services in Trade and Economic Relations of the Socialist Countries of Eastern Europe" Warsaw, January 1988.

For example, Polish PTT operates as a monopoly, and until passage of recent legislation, has been excluded from foreign investment. This protected market has resulted in deficient telecommunications technology, and underdeveloped data bases and data processing centers in Poland. Transborder data flow is minimal and the value added networks (VANs) are practically non-existent. The only way to achieve global information standards is to open the Polish market to foreign telecommunications companies.

As this example demonstrates, there is an urgent need to integrate the Polish economy with market forces in other countries. To determine which industries will be profitable and internationally competitive, measures that distort the domestic economy must be eliminated and prices must be allowed to respond unrestricted to the international marketplace.

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1. Airline tickets had different prices for citizens of COMECON countries on all the internal COMECON routes. Hotel services were also priced differently. In addition, arbitrary rates of exchange between non-convertible currencies caused a significant distortion in the data.

Poland and the General Agreement on Tariffs and Trade (GATT)

The Polish interest in GATT dates back to the end of 1950 and was related in part to the desire to broaden access to Western markets. Poland became a member of GATT in 1967, and despite the fact that Polish participation has been limited, it opened the way for other non-market economies seeking a place in the organization.

Previously, Polish negotiating interests in the GATT focused on labor intensive services, like construction, where Poland had greater export capacity. Liberalization in other service areas was viewed as a possible concession. Today in Poland this view is changing, and liberalization of services trade is recognized as a source of potential economic growth, including:

1) increased markets for exports of services;
2) greater efficiency in domestic production resulting from increased competition;
3) reduced costs of producer services (which currently are delivered inefficiently by Polish monopolies);
4) better allocation of resources and improved efficiency of the whole economy due to more readily available services, providing better quality at affordable prices.

Even small progress in world trade liberalization should bring some benefits to Poland. By breaking the relative economic isolation of the national economy, foreign competition in the service sector will encourage the process of deregulation and stimulate technology advancement. Efforts should be made to simplify the scope of government regulation, while at the same time implementing measures to direct foreign participation in the domestic market.

Fears and Expectations

In the past, Poland shared many of the concerns of other developing countries regarding trade liberalization. These concerns are motivated primarily by three considerations: 1) by the desire to protect some service industries — or the service sector as a whole — on the basis of the "infant industry" argument; 2) by a need to cope with balance of payments difficulties, and 3) by recognition of the role of service industries as crucial to the formation of economic infrastructure.

The transition from command economy to free market requires a shift from protectionism for weak service industries, to creation of policies that are consistent with the promotion of free trade. Adopting regulatory mechanisms consistent with such principles as transparency, non-discrimination and national treatment will take time as existing layers of regulations, whether intended to affect foreign competition or not, at present constitute barriers to services trade. The new administration is in the process of learning how to manage a partially deregulated economy, however, new laws often are not "grandfathered" to eliminate existing laws, or even customary principles.

Will Participation in the Uruguay Round Benefit Poland?

Poland already enjoys inclusion in the U.S. General System of Preferences (GSP) and has been granted association status with the European Community. Further benefits resulting from changes in conventional trade policy are unlikely. Due to the overall political atmosphere in Poland, better results may be obtained through bilateral talks with major trading partners than through negotiations

in the GATT. In the service sector, Poland has the greatest interest in areas where industrial countries seem unprepared to offer concessions (e.g. shipping and transport, and temporary labor). Further, a number of protectionist barriers to Polish trade, inconsistent with GATT provisions, still exist. In the short term, it appears more may be achieved through direct bilateral negotiation than can be achieved within the time remaining in the Uruguay Round.

The shape of a final agreement on services trade remains uncertain, and Poland must develop a new commercial policy and formulate a bargaining position that encourages the greatest expansion of its service sector, even if this progress is achieved outside of the GATT framework.

A change in attitude on the part of the private sector in Poland's major export markets may produce significant benefits as well . However, different attitudes will not result from Polish regulatory reform alone, but will require economic stability that diminishes the risk surrounding future development in Poland. Although serious economic problems helped to shape reform, it must be noted that the major motives behind the transformation were political, and new political forces could easily disturb the process of change. Assuring continuity and consistency of economic programs despite the volatile political scene will be a major challenge.

GATT: Institutional Infrastructure for Transition

Key elements of economic reform must be anchored with international obligations. External examination of domestic adjustment programs performed while negotiating new loans with the IMF, or during debt scheduling talks, may help to prevent major departures from consistent policy. In Poland, rapid economic change has created an unusual situation that permits commercial policy to be implemented without the traditional deliberation that often restricts political maneuvering in other countries. Although there are no well-organized special interest groups seeking protection, the same can be said of forces interested in further trade expansion. Unfortunately, future development and harsh economic conditions may reinforce demands for protectionism. There is a need, therefore, for an international economic infrastructure that will provide support during the transformation process.

The sweeping changes in Poland will require a broader view of market liberalization than that which appears possible in the current Uruguay Round negotiations. However, GATT remains an important negotiating forum in which to pursue liberalizing policies that will support Poland's integration into international economic alliances based on free trade.

Quest for Quality
Florida Power & Light Co. Wins the Deming Prize

In the summer of 1988, Florida Power & Light Company (FPL) decided to challenge for the Deming prize, a prestigious award for quality control presented annually by the Union of Japanese Scientists and Engineers (JUSE). The Deming Prize has been awarded annually by JUSE since 1951. In Japan it is considered the highest honor any business can achieve and is named in honor of an American — a management expert named W. Edwards Deming— whose methods in quality control are generally credited with helping Japan to become a major economic power.

Among the winners since the award was inaugurated have been companies such as Hitachi, Mitsubishi, Komatsu, Fuji-Xerox, Nissan and Toyota. In 1989, after more than a year of intense scrutiny and on-site examinations by the Japanese, Florida Power & Light Company became the first non-Japanese company to win the Deming Prize.

The award is not based on competition. Instead, it simply reflects a measurement of how the quality improvement process at FPL stands up against the quality standards established by the Japanese. The Deming Prize is a significant accomplishment for this American service company. FPL agreed to share their management system with our readers.

In number of customers, Florida Power & Light Company is one of the largest and fastest-growing investor-owned electric utilities in the United States. As the largest subsidiary of FPL Group, Inc., the utility serves 3.2 million customers in an area that includes approximately half the state of Florida.

FPL's customers use more electricity per person than customers of other major utilities, and service reliability is tested by such factors as year-around rapid tree growth, high winds, and salt spray contamination from hundreds of miles of coastline.

As FPL prepared to enter the 1980s, it became obvious to company management that a major change was needed within the organization. A search was undertaken to find a management system that could help the company cope with the rapidly changing business environment.

The management system now used at FPL is known as "QIP" —the quality improvement process. It is based on a process that the Japanese call "TQC" — total quality control. After observing first-hand some of the impressive results achieved by the Japanese, FPL executives decided to establish an American program based on the same principles.

Although quality improvement teams were introduced to FPL as early as 1981, it wasn't until 1985 that a total quality process began to be implemented throughout the company. In addition to QI teams, the quality system included a planning process called "policy deployment" and a control process called "quality in daily work."

QI Teams

The QI teams, or quality circles as they are often known, provide a "bottom to top" communications system that gives every employee an opportunity to share in the improvement process. There are now more than 1,800 teams in place at FPL.

"For a quality process to be successful, it simply has to become the way you do business."
Bob Tallon
President, FPL

Policy Deployment

The second step of the expanded quality program is a corporate-wide planning process in which targeted goals are communicated from the top to the bottom of the organization. Essentially, policy deployment is the company's corporate road map to customer satisfaction. It is the driving force of QIP and a management process that focuses all of the company's resources on a few high priority goals.

Concentrating on what customers consider most important to them, top management selects goals to be achieved in five to seven years. As these mid-term objectives filter down through the organization, short-term plans of one to two years are developed at lower levels.

The bottom line is that everyone in the company begins to aim toward the same goals and a tremendous amount of energy is focused on reaching corporate objectives.

Quality in Daily Work

The third component of the quality improvement process in known as "QIDW" — quality in daily work — and this focuses on "how" things are done. It is especially effective in areas where things are done on a repetitive basis. Employees use tools such as flow charts to illustrate the steps of their work process, and control charts to measure and monitor the process.

Vendor QIP

FPL's efforts to achieve total quality reach beyond its own employees. Since almost two-thirds of the company's revenues are spent on products and services that come from outside the company, a vendor quality improvement program was a natural extension.

Key vendors participate at various levels in the quality process. A vendor's status in vendor QIP is a significant factor in the evaluation of proposals and the decision to award a contract or purchase order. Although FPL doesn't require that vendors follow any particular process, it is strongly suggested that they have some sort of quality mechanism in place to ensure that FPL standards are met.

The Basic Principles

FPL's efforts in the quality process are guided by just four basic principles.

At the top of the list is the idea of customer satisfaction. The entire corporate agenda is established with the customer's needs in mind. To achieve customer satisfaction, the company's definition of "customer" has been expanded to include anyone who utilizes the services of FPL employees. Employees often find that their "real" customer is a fellow employee who works just down the hall.

The second principle is that of continuous improvement. The focus on this principle is reflected through the use of the Plan-Do-Check-Act cycle, or PDCA. This never-ending process is based on the simple premise that to achieve quality, you must plan for it, do it, check the results and take action for improvement.

The third principle is management by fact, an idea that stresses the reliance on data to guide the decision-making process.

The final principle is respect for people. Often overlooked in the corporate world, the emphasis on this principle has broken down many of the traditional barriers between employees and management.

Results of the Emphasis on Quality

Although QIP has been in place company-wide for only five years, the results of the process have been encouraging. Every key quality indicator used by FPL has improved significantly. The company has reduced service unavailability, cut down on injuries, lowered the number of customer complaints and kept the cost of electricity to its customers well below the Consumer Price Index.

Receiving the Deming award in 1989 recognizes that FPL has put a quality process into place, and that it has achieved positive results. But more than anything else, the Prize recognizes the company's long-term commitment to increased customer satisfaction and continuous improvement.

FPL president Bob Tallon compares winning the award to passing an entrance exam to college. "We're proud of what we've done," he said, "but we realize how much more we have to do."

"It's a never-ending process, says Tallon. "For a quality process to be successful, it simply has to become the way you do business."

SERVICES ECONOMIC HIGHLIGHTS

CSI

Allen Sinai
Chief Economist, Boston Company Economic Advisors, Inc.

Services At a Glance

- ***Services GNP Measured by Expenditures***—or the service component of expenditures by consumers, businesses, government and the net service export balance—slowed to a modest 1.4% annual rate of increase in the first quarter of 1990, compared to a 6% annualized rate in the fourth quarter.

- The ***Service Sector Leading Index***—which leads activity by about six months—picked-up to a 2.1% rate, from 1.7% in April. The annual growth rate of the coincident index, reflecting current economic conditions for the service sector, slowed to 2.5%, compared to the 3.9% rate in the month earlier.

- ***Employment*** growth in service industries is weakening, perhaps reflecting a slowdown in demand. At 85.4 million, service sector employment in June increased 83,000 persons from May, and was up by 2.5 million persons from the same month a year ago.

- ***Personal Consumption Expenditures On Services*** slowed in the first quarter to a 1.3% growth rate, following a 5.9% gain in the fourth quarter. On a monthly basis, spending on services continued to weaken. In April, services expenditures rose an annualized 5.7% from March, following annual rates of 6.5% and 9.6% in the previous two months.

- ***Prices of Consumer Services*** for May increased 5.2% from the level a year earlier and were up 0.4% from the previous month. Services inflation seems entrenched.

- The ***Services Stock Price Index*** in May rose 3.1% from April, and was up 8.6% from year earlier levels.

- ***True Services Exports*** increased by $1.04 billion in the first quarter, bringing the total to a record-high $29.2 billion, surpassing the previous record of $28.1 billion the quarter before. The U.S. is very competitive globally in business services.

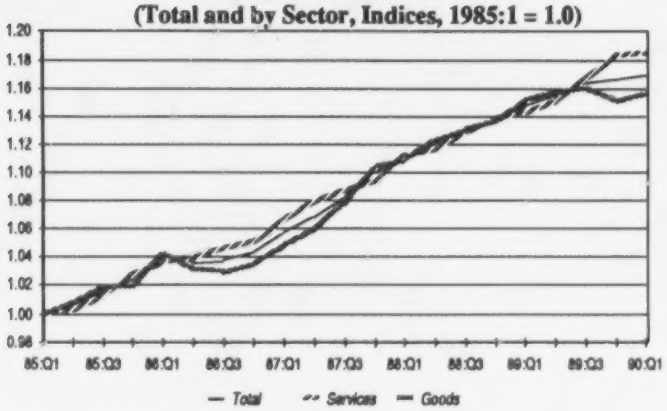
- ***Plant and Equipment Expenditures by Services Industries*** surged 22.6% in the first quarter over the previous quarter, rebounding from a 5.9% drop in the last quarter in 1989.

- ***Corporate Profits of Service Industries*** jumped 18.1% in the first quarter, following declines of 6.3% and 13.4% in the previous two quarters. Profits for all industries increased 24.6%, ending four consecutive quarters of downfalls.

Bottom Line: Service sector employment growth over the past few months has been hesitant, inflation remained high, and consumer purchases of services declined. Although service export earnings, capital outlays and profits remain strong, the service sector is showing signs of wear and tear.

The Service Economy refers to the total economy, in which services activities are the dominant factor. The Service Economy comprises 68% of real production GNP and 76% of employment. Major segments are: Communications; Transportation; Public Utilities; Finance, Insurance and Real Estate; Wholesale and Retail Trade; Government; and "Service," a diverse category including Business Services, Personal Services, Professional and Health Services.

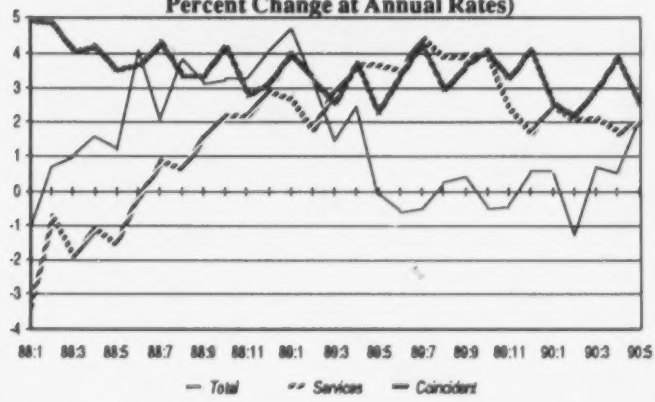
Chart 1
Real Gross National Product
(Total and by Sector, Indices, 1985:1 = 1.0)



Services GNP Growth Slows

First–quarter services GNP—measured by expenditures—increased a modest 1.4%, following a strong 6% rise in the fourth quarter. The goods component, including construction, rose 2.3%, after contracting 3.1% in the previous quarter. Total GNP growth increased to a 1.9% rate from 1.1% in the fourth quarter.

Chart 2
Leading Economic Indicator Indices
(Total Economy and Service Sector, Six-Month Smoothed, Percent Change at Annual Rates)

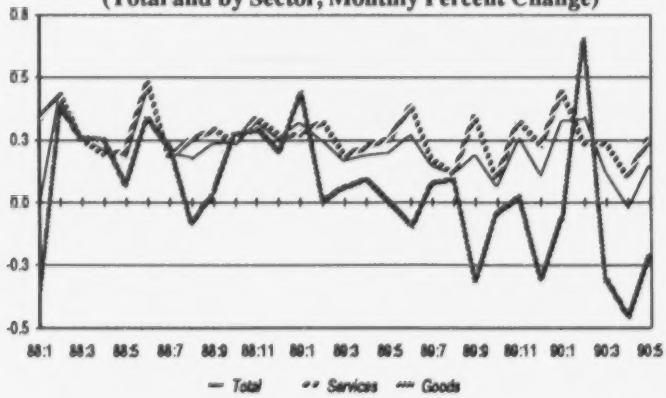


Services Leading Indicator Continues Upward Trend

The leading index for the service sector rose 2.1% in May, up slightly from a 1.7% rate in April, while the coincident index for service sector activity slowed to a 2.5% growth rate, from a 3.9% rate in the previous month. The leading indicator for the whole economy rose 2%, following a modest 0.5% gain in April.

The Service Sector Indices are produced by the Center for International Business Cycle Research, Columbia University.

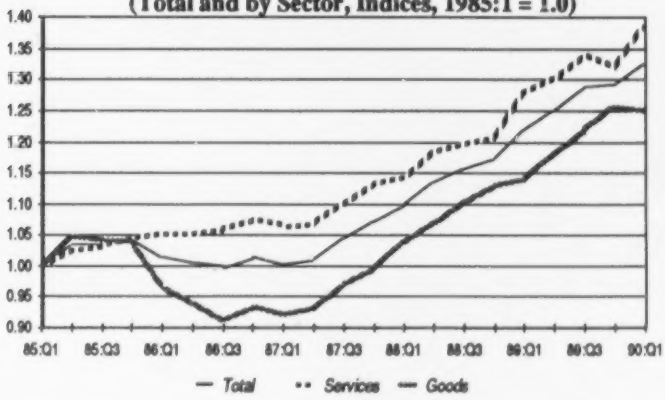
Chart 3
Employment Growth
(Total and by Sector, Monthly Percent Change)



Record High Services Employment May Conceal Weakness

In June, employment in service industries reached a record-high 85.4 million persons, up 83,000 from May. However, growth is not widespread, with health care employment rising and retail trade showing a decline. For the fourth consecutive month, goods sector employment declined from month–earlier levels. At 25.4 million persons, employment in the goods sector fell 43,000 from May.

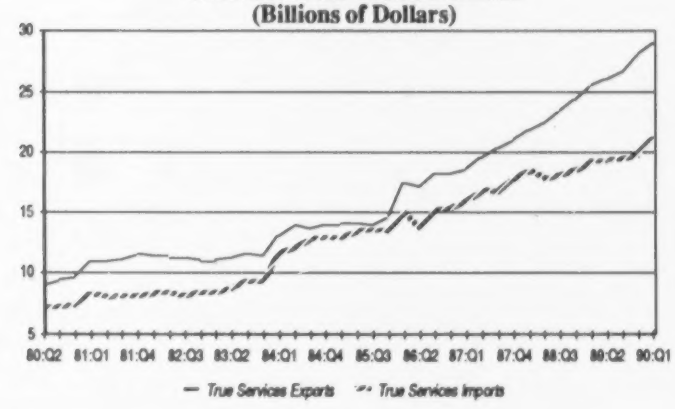
Chart 4
Expenditure on Plant and Equipment
(Total and by Sector, Indices, 1985:1 = 1.0)



Services Investment Soars

Service industries increased current dollar expenditure on plant and equipment (P&E) by a large 22.6% in the first quarter, following a 5.9% contraction in the previous quarter. Capital outlays by goods industries fell 2.2%, after a 12.9% surge in the previous quarter. First-quarter overall spending on P&E jumped 11.6%, largely due to the robust capital spending by service industries.

Chart 5
True Services Trade Balance
(Billions of Dollars)

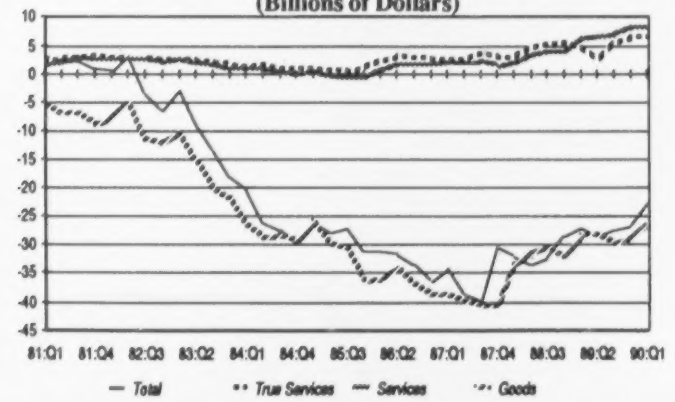


"True Services"* Trade Surplus Remains High

At $8.1 billion, the true services trade surplus in the first quarter of the year slipped $177 million from a high of $8.3 billion in the previous quarter due to higher services imports than exports. Both true services exports and imports posted record high levels. At $29.2 billion, true services exports were up from $28.1 billion in the fourth quarter, while true services imports amounted to $21.1 billion, up from $19.9 billion.

* *True services trade refers to nonfinancial trade flows such as travel, passenger fares, and fees and loyalties.*

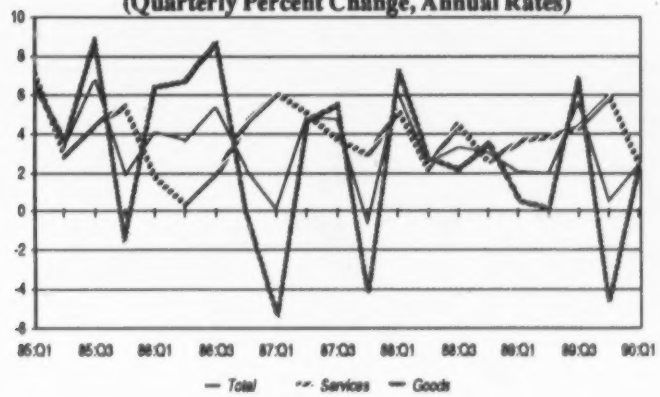
Chart 6
Current Account Balance and Components
(Billions of Dollars)



Current Account Deficit Declines

The current account deficit declined to $22.9 billion in the first quarter—the smallest deficit in six years—from $26.7 billion in the fourth quarter. The improvement was the combined result of a sharp $2.4 billion decline in the goods trade deficit to $26.4 billion, and a wider services and investment income balance at $6.3 billion.

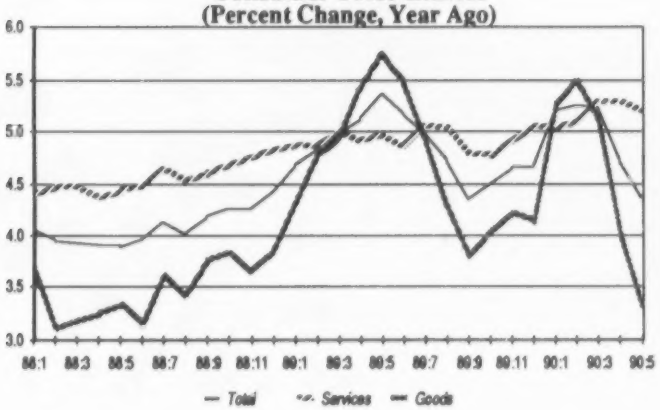
Chart 7
Real Personal Consumption Expenditures
(Quarterly Percent Change, Annual Rates)



Spending on Services Slows

Personal consumption expenditures on services slowed to an inflation-adjusted 1.3% growth rate in the first quarter, following a strong 5.9% rate in the previous three months. First–quarter spending on goods rebounded to 1.8%, after declining 4.6% in the previous quarter, pushing overall spending up 1.6%, compared to the mere 0.5% rate in the fourth quarter.

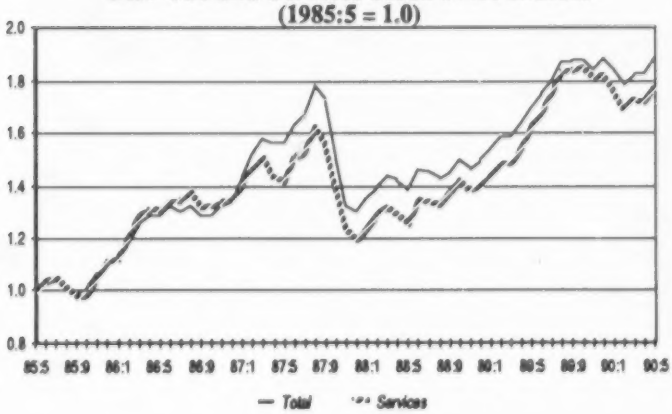
Chart 8
Consumer Price Indices
(Percent Change, Year Ago)



Service Inflation Well-Entrenched

At 4.4%, the year-over-year increase in the May consumer price index (CPI-U) was the smallest since September 1989, mostly as a result of lower price increases for goods. The service component of the CPI-U slowed marginally to a 5.2% rate, after maintaining a 5.3% rate in the previous two months. Goods prices were up 3.3%—the smallest year-over-year increase since June 1988.

Chart 9
S&P 500 and Services Stock Price Indices
(1985:5 = 1.0)



Stock Prices Increase

In May, the S&P 500 and service industries stock price indices rose 3.6% and 3.1%, respectively, swinging from declines of 0.1% and 0.7% in April. Compared to year earlier levels, the services stock price index was 8.6% higher, while the overall S&P index was up 11.6%.

The Services Stock Price Index is based on S&P indices for 13 service industries and is compiled by the Center for International Business Cycle Research.

SERVICE SECTORS IN DEVELOPING COUNTRIES: SOME EXCEPTIONS TO THE RULE

by Allen Sinai and Zaharo Sofianou

In general, the economies of developing countries are characterized by relatively large agricultural sectors, and growing manufacturing sectors. The service sector, particularly as it exists in developed economies, with large financial and business sectors, is the last to develop. Basic needs such as food and shelter must be satisfied first, and it is only after agricultural production becomes efficient enough to allow labor and other resources to move to manufacturing and services that the service sector is able to develop. This is the classic pattern of development for most developing nations, however, the economies of some developing countries have followed a different pattern, resulting in a dominant service sector.

Prominent among this second group of countries are Singapore, Hong Kong, Bermuda, the Bahamas, the Netherlands Antilles and other small islands, with little agricultural land. Having fewer natural resources, these countries rely mostly on services, such as tourism, finance, or shipping to earn foreign exchange and, in turn, import basic food and other commodities.

The following analysis compares the economies of four developing countries and specifically the relative size and structure of their services sectors. The four economies are, India—a developing country whose pattern of economic development closely fits the traditional pattern; Mexico—a country that would have followed the traditional development pattern, but its proximity to the United States has modified the course of its development; Singapore, a nation-city with practically no land or commodities, but rather has people as its main natural resource; and Hong-Kong, also a territory with few natural resources—which took advantage of its ties to the United Kingdom, its geographic location, and the high educational level of its labor force to develop its financial industry.

In India, a developing country with much land and many natural resources, the agricultural sector accounts for 30 percent of its GDP (Gross Domestic Product), and when forestry, fishing and mining are added, the total is close to 35 percent. While this figure is down from over 40 percent in 1970, it is still a relatively large proportion when compared to advanced countries like the United States, where natural resources and land are even more abundant than those of India, and yet agriculture contributes less than 3 percent of its GDP.

Still, India's service sector accounted for over 40 percent of its GDP in 1988, up from 30 percent in 1970, thus taking over from agriculture as the largest single contributing sector to GDP. It is the mix within the service sector itself that differs between developed and developing countries.

The predominant service industry is wholesale and retail trade, perhaps the most important service industry to the development of the goods sector. The trade sector, including hotels and restaurants, accounted for 12.5 percent of India's GDP in 1988. In the United States, this sector accounted for 17.7 percent of its GDP in 1987, a relatively large proportion, but not the largest.

Transport, storage and communication is India's second largest service sector, accounting for 6.9 percent of total GDP, somewhat larger than the 6.1 percent contribution of the equivalent U.S. sector. Public administration and other services, including personal, accounted for 5.9 percent of GDP each.

Where the two countries really differ, however, is in the financial, real estate, and business services areas. Lumped together, banking, insurance, real estate and business services account for

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India:
Sector Contribution to GDP
(Percent of Total)

	1980	1985	1986	1987	1988
Services	37.7	40.5	41.2	42.3	41.4
Trade, Hotels and Restaurants	12.0	12.4	12.6	12.6	12.5
Transport, Storage and Communication	4.7	6.0	6.3	6.8	6.9
Banking and Insurance	2.8	3.7	3.5	3.8	3.8
Real estate, Ownership of Dwellings and Business Services	6.0	5.1	4.9	4.7	4.3
Public Administration and Defense	4.7	5.3	5.8	6.1	5.9
Utilities	1.6	2.0	2.2	2.1	2.1
Other Services	5.8	5.9	5.9	6.2	5.9
Goods	62.3	59.5	58.8	57.7	58.6
Agriculture	34.7	30.5	28.6	28.4	30.1
Forestry and Logging	2.5	1.5	1.9	1.7	1.6
Fishing	0.8	0.9	0.9	1.0	0.9
Mining and Quarrying	1.5	2.8	3.0	2.4	2.3
Manufacturing	17.7	18.7	18.8	18.4	18.1
Construction	5.0	5.1	5.6	5.8	5.7

Source: The Boston Company Economic Advisors, Inc.

8.1 percent of India's GDP, compared with over 20 percent in the United States. Moreover, these figures conceal differences in the quality of the services in the two countries, making the comparison even less meaningful.

Mexico, another developing country with much land and natural resources developed differently from India, partly because of its proximity to the United States. One of the main effects of the U.S. economy on Mexico is the development of Mexico's service sector—in particular those services related to the travel and tourist industry—as a result of personal travel by U.S. residents to Mexico. While India also offers a wide variety of attractions for foreign travellers, with the additional advantage that the english language is widely spoken, the tourist industry has not developed as it did in Mexico, primarily because India is not close to a large developed country and for many travellers the transportation cost is prohibitive.

In Mexico, the trade, hotels and restaurant industries accounted for a large 27.4 percent of total GDP in 1988—almost half the total 57 percent contribution to GDP of the overall service sector. While separate figures for trade, hotels, and restaurants are not available, it can be safely assumed that, for Mexico, the the large size of this sector is boosted by tourism.

The second largest service sector in Mexico is community, social and personal services, which, in 1988 accounted for 13.5 percent of GDP, down from 16.6 percent in 1980. In the United States, the equivalent sector accounted for 8.8 percent in 1987, a much lower proportion. Part of the reason for this sector's relative decline over the last ten years, is probably the movement of low-paid domestic workers to higher paying jobs in either manufacturing or service establishments. Interestingly, while the personal services sector has been contracting in many developing countries as a result of better job opportunities in the manufacturing sector, it is likely to begin growing in advanced countries, as a result of increased demand for personal services such as child and elderly care, and house cleaning for two-income families. The reemergence of the personal services sector in advanced countries is taking place at relatively higher wages than was previously the case, due to tight labor supply.

As in India, however, finance, insurance, real estate and business services—the predominant service sector in advanced countries—make up a relatively small 7.1 percent of Mexico's GDP.

Singapore, a country composed largely of one city, has had to rely on services for survival. As early as 1960, when statistics indicating the composition of its GDP are available, over 80 percent

Mexico:
Sector Contribution to GDP
(Percent of Total)

	1980	1985	1986	1987	1988
Services	55.3	58.5	58.1	56.4	56.7
Wholesale, Retail Trade, Restaurants and Hotels	23.4	28.1	26.6	27.2	27.4
Transport, Storage, and Communication	6.5	6.7	7.2	7.2	7.6
Finance, Insurance, Real Estate, and Business Services	7.9	7.5	7.9	7.0	7.1
Community, Social, and Personal Services	16.6	15.4	15.2	14.0	13.5
Utilities	1.0	0.9	1.3	1.0	1.2
Goods	44.7	41.5	41.9	43.6	43.3
Agriculture, Forestry and Fishing	8.4	9.1	9.4	8.7	9.0
Mining	6.8	4.7	3.6	5.1	3.9
Manufacturing	23.0	23.4	24.6	25.8	26.4
Construction	6.5	4.4	4.3	4.0	4.0

Source: The Boston Company Economic Advisors, Inc.

of Singapore's GDP was in the form of services, while manufacturing made up another 11.4 percent. In 1989, the services portion of GDP declined to 64.6 percent, while that contributed by manufacturing increased to almost 30 percent. Most of the increase in the manufacturing sector was at the expense of low-value production in the service and agriculture sectors.

Singapore's economic development did not follow the classic pattern because there is little land for a significant agricultural sector. The combined contribution of agriculture and fishery in 1960 was a mere 3.5 percent, which then went on to decline to 0.3 percent by 1989.

Being a small, resource-poor country, Singapore's production has shifted to high-value goods and services, such as financial services and the production of electronic and computer goods. Singapore's main productive resource is its workforce and, through training and education it has improved the quality of its workers so that they can produce high-value goods and services.

In 1960, 32 percent of Singapore's GDP was contributed by the trade sector, while financial and business services contributed 13.8 percent. By 1989, however, the contribution of the trade sector (a sector which does not require highly educated workers) declined to 17.6 percent, while that of the financial and business sector (a sector, which on average, requires more educated workers) increased to almost 30 percent.

Singapore
Sector Contribution to GDP
(Percent of GDP)

	1960	1970	1980	1989
Services	81.5	70.5	62.8	64.6
Utilities	2.3	2.6	2.2	2.0
Trade	32.1	27.1	21.7	17.6
Transport and Communication	13.3	10.6	14.0	13.5
Financial and Business Services	13.8	16.4	19.7	29.7
Other Services	20.0	13.9	5.2	1.8
Goods	18.5	29.5	37.2	35.4
Agriculture and Fishing	3.5	2.3	1.3	0.3
Quarrying	0.3	0.3	0.3	0.1
Manufacturing	11.4	20.0	29.1	29.7
Construction	3.4	6.8	6.4	5.2

Source: The Boston Company Economic Advisors, Inc.

Hong Kong is yet another country whose development has deviated from the classic pattern, mostly for the same reasons that applied for Singapore. While data which break up GDP by sector are not available prior to 1980, it is unlikely that any major shift in the overall contribution of goods and services has taken place.

Between 1980 and 1988 the contribution of the goods sector declined to 24

Hong Kong
Sector Contribution to GDP
(Percent of Total)

	1980	1985	1986	1987	1988
Services	69.7	73.8	73.7	74.4	75.6
Wholesale, Retail Trade, Restaurants and Hotels	19.6	20.7	20.2	22.0	23.4
Transport, Storage and Communication	7.2	7.7	7.7	8.3	8.7
Finance, Insurance, Real Estate and Business Services	21.9	15.5	16.4	17.3	17.7
Ownership of Premises	9.2	10.5	10.1	9.8	9.6
Community, Social and Personal Services	12.0	16.5	15.8	14.3	13.8
Utilities	1.3	2.6	2.8	2.6	2.3
Other Services	-1.5	0.2	0.6	0.2	0.1
Goods	30.3	26.2	26.3	25.6	24.4
Agriculture and Fishing	0.8	0.5	0.4	0.4	0.3
Mining and Quarrying	0.2	0.2	0.1	0.1	0.1
Manufacturing	22.9	20.8	21.2	20.6	19.3
Construction	6.4	4.7	4.6	4.5	4.7

Source: The Boston Company Economic Advisors, Inc.

percent from 30 percent, while services increased to 75.6 percent from 69.7 percent, as a result of small relative declines in the manufacturing and construction sectors. The construction sector is cyclical and goes through expansions and contractions. The contraction in the manufacturing sector was rather small for general conclusions about trends, however, it is probably safe to assume that some of the low-value and labor intensive manufacturing activity is being shifted to China, while workers in Hong Kong move to higher paid service jobs.

One growth service area for Hong Kong has been in the trade, hotels and restaurants sector, which increased its contribution to GDP to 23.4 percent in 1988 from 19.6 percent in 1980. Increased tourist flows to Hong Kong resulting from tour packages taking visitors to China was the main factor contributing to this increase.

It is not clear how Hong Kong's economy will change between now and 1997 when the British return the colony to China. In any case, a key factor will be how many of Hong Kong's highly skilled and educated workers emigrate, and whether this causes a decline in the service sectotr.

Conclusion

Clearly, while there is a standard economic model for the economic development of a country—which begins with subsistence farming, and moves to large scale agriculture, manufacturing and then services—not all countries follow that path. The natural resources at hand and how they can be exploited for the country's economic improvement is most important. In the absence of land and other natural resources, however, labor is the crucial natural resource causing the economy of the developing nation to move more rapidly towards development of services.

Table 1
Summary of the Service Economy
(Monthly Indicators)

	1989:12	1990:1	1990:2	1990:3	1990:4	1990:5	1985	1986	1987	1988	1989
Total Employment—Millions	109.6	109.9	110.3	110.4	110.4	110.6	97.5	99.5	102.2	105.6	108.6
Services	84.0	84.4	84.6	84.8	84.9	85.1	72.7	75.0	77.5	80.3	82.9
Goods	25.5	25.5	25.7	25.6	25.5	25.4	24.9	24.6	24.7	25.2	25.6
Total Wages and Salaries—											
Billions of Dollars	2712.2	2724.7	2747.9	2763.9	2780.3	2790.6	1975.4	2094.8	2249.4	2429.0	2631.1
Services	1963.8	1978.4	1992.2	2003.9	2024.1	2027.2	1366.5	1469.2	1599.4	1732.7	1892.9
Goods	748.4	746.3	755.7	760.0	756.2	763.4	608.9	625.6	649.9	696.3	738.2
Total Wages and Salaries—											
%Change, Year-Over-Year	7.8	7.0	7.5	7.2	6.9	7.2	7.4	6.0	7.4	8.0	8.3
Services	8.9	8.4	8.7	8.6	8.3	8.4	8.4	7.5	8.9	8.3	9.2
Goods	4.8	3.6	4.3	3.4	3.2	4.2	5.4	2.7	3.9	7.1	6.0
Consumer Price Index—All Urban,											
%Change, Year-Over-Year	4.6	5.2	5.3	5.2	4.7	4.4	3.5	1.9	3.7	4.1	4.8
Services	5.1	5.0	5.1	5.3	5.3	5.2	5.1	5.0	4.1	4.6	4.9
Goods	4.1	5.3	5.5	5.1	4.0	3.3	2.1	-1.0	3.2	3.5	4.7
Services Leading Indicator											
Index (%)*	1.5	2.4	2.0	2.1	1.7	2.1	3.3	4.9	2.3	0.2	3.2
Leading Economic Indicator											
Index—Total (%)*	0.6	0.6	-1.3	0.7	0.5	2.0	2.0	6.6	5.9	1.9	1.5
Services Coincident Indicator											
Index (%)*	4.2	2.6	2.2	2.9	3.9	2.5	3.8	3.3	3.6	3.8	3.4
Service Industries Stock Price											
Index	120.6	116.5	112.1	114.6	113.8	117.3	66.2	86.3	95.6	88.3	111.5
S&P 500 Stock Price Index	348.6	340.0	330.5	338.5	338.2	350.3	186.8	236.3	286.8	265.8	322.8

* *Growth rate expressed in six-month smoothed percent changes at annual rate.*

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Center for International Business Cycle Research and The Boston Company Economic Advisors, Inc.

Table 2
Summary of the Service Economy
(Percent Change, SAAR, Except Where Indicated)

	1988:4	1989:1	1989:2	1989:3	1989:4	1990:1	1985	1986	1987	1988	1989
Gross National Product	2.7	3.7	2.5	3.0	1.1	1.9	3.4	2.7	3.7	4.4	3.0
Services	3.4	1.8	3.1	5.3	6.0	1.4	3.6	3.2	3.7	3.9	3.3
Goods and Construction	2.0	5.4	2.0	0.9	-3.1	2.3	3.1	2.3	3.6	4.9	2.7
Construction	4.0	-4.9	-9.9	-2.4	4.2	11.0	3.7	1.5	-1.4	-0.5	-2.2
GNP—Product Measure	—	—	—	—	—	—	3.4	2.7	3.7	4.4	3.0
Services	—	—	—	—	—	—	4.1	3.8	3.9	NA	NA
Goods	—	—	—	—	—	—	3.9	1.2	3.2	NA	NA
Manufacturing	—	—	—	—	—	—	3.8	2.3	4.3	NA	NA
Agri./Mining/Construction	—	—	—	—	—	—	4.0	-0.8	0.9	NA	NA
Consumption Expenditures	3.0	2.0	1.9	5.6	0.5	1.6	4.7	3.9	2.8	3.4	2.7
Services	2.6	3.6	3.8	4.3	5.9	1.3	4.7	2.7	4.2	3.8	3.7
Goods	3.5	0.6	0.1	6.9	-4.6	1.8	4.7	5.0	1.4	3.0	1.8
Plant and Equipment Expenditures—											
Current Dollars	6.1	16.7	10.3	12.5	1.6	11.6	9.2	-2.0	2.4	10.6	10.7
Services	3.3	26.8	6.8	12.2	-5.9	22.6	9.6	3.4	2.9	8.4	10.8
Goods	10.1	3.7	15.4	13.0	12.9	-2.2	8.8	-9.1	1.8	13.7	10.5
Corporate Profits—Current Dollars											
%Change, Year-Over-Year	24.2	-27.0	-7.7	-9.1	-23.4	24.6	-5.8	2.0	6.9	14.1	-5.9
Services	8.3	-24.6	14.8	-13.4	-6.3	18.1	-2.4	21.5	-2.7	5.8	-1.8
Goods	51.5	-30.0	-23.3	-15.4	-45.5	37.1	-10.3	-25.4	28.8	28.4	-11.6

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics and The Boston Company Economic Advisors, Inc.

CSI

Table 3
Summary of the Service Economy
(Billions of 1982 Dollars, SAAR, Except Where Indicated)

	1988:4	1989:1	1989:2	1989:3	1989:4	1990:1	1985	1986	1987	1988	1989
Gross National Product	4069.4	4106.8	4132.5	4162.9	4174.1	4193.4	3618.7	3717.9	3853.7	4024.4	4144.1
Services	1896.7	1905.1	1919.9	1945.0	1973.5	1980.5	1684.3	1738.8	1803.7	1873.5	1935.9
Goods and Construction	2172.7	2201.7	2212.7	2217.9	2200.6	2212.9	1934.5	1979.1	2050.0	2150.9	2208.2
Construction	383.3	378.5	368.8	366.6	370.4	380.2	380.8	386.5	381.1	379.3	371.1
GNP—Product Measure *	—	—	—	—	—	—	3618.7	3717.9	3853.7	4024.4	4144.1
Services	—	—	—	—	—	—	2407.8	2498.9	2595.4	NA	NA
Goods	—	—	—	—	—	—	1176.1	1190.6	1228.9	NA	NA
Manufacturing	—	—	—	—	—	—	786.8	804.6	839.5	NA	NA
Agri./Mining/Construction	—	—	—	—	—	—	389.3	386.0	389.4	NA	NA
Consumption Expenditures	2627.7	2641.0	2653.7	2690.1	2693.7	2704.3	2354.8	2446.4	2513.7	2598.4	2669.6
Services	1295.2	1306.7	1319.0	1332.9	1352.2	1356.7	1152.3	1183.8	1233.7	1280.2	1327.7
Goods	1332.5	1334.4	1334.7	1357.2	1341.4	1347.5	1202.5	1262.6	1280.0	1318.1	1341.9
Plant and Equipment Expenditures—											
Current Dollars	442.1	459.5	470.9	484.9	486.8	500.3	387.2	379.3	388.5	429.6	475.5
Services	256.4	272.1	276.6	284.7	280.4	295.1	217.8	225.3	231.8	251.3	278.5
Goods	185.7	187.4	194.2	200.2	206.4	205.2	169.4	154.0	156.8	178.3	197.1
Corporate Profits—											
Billions of Dollars	252.2	233.1	228.5	223.1	208.7	220.5	191.4	195.2	208.7	238.1	224.2
Services	146.7	136.7	141.5	136.5	134.3	140.0	111.7	135.8	132.1	139.8	137.3
Goods	105.5	96.5	90.3	86.6	74.4	80.5	79.7	59.5	76.6	98.3	86.9
Current Account Balance—											
Quarterly Rates	-28.7	-27.1	-28.6	-27.6	-26.7	-22.9	-112.7	-133.3	-143.7	-126.5	-110.0
Services Balance	3.9	4.1	4.5	5.7	6.1	6.3	-1.0	5.9	7.7	13.1	20.5
True Services Balance **	5.8	6.2	6.6	7.2	8.3	8.1	3.4	11.6	11.9	19.0	28.2
Exports	24.4	25.5	26.0	26.7	28.1	29.2	56.9	70.9	79.4	92.1	106.2
Imports	18.6	19.3	19.4	19.5	19.9	21.1	53.6	59.3	67.5	73.1	78.0
Merchandise Trade Balance	-31.6	-28.1	-28.2	-29.8	-28.7	-26.4	-122.1	-145.1	-159.5	-127.0	-114.9

* *Under revision.*

** *True Services Balance is the balance on Service exports and imports excluding receipts and payments on investments and government transactions.*

Sources: Bureau of Economic Analysis and The Boston Company Economic Advisors, Inc.

CSI

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THE COALITION OF SERVICE INDUSTRIES was formed in 1982 to increase public awareness of the expanding role of the service sector in the U.S. economy. One of the priorities of the Coalition is to improve the adequacy of statistical programs in their measurement and analysis of the service sector.

THE SERVICE ECONOMY is a product of the CSI Task Force on Data Collection and Statistical Improvement. Comments or suggestions should be directed to Maria Eli, Editor, at 202/467-3054.

A3172-1

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THE SERVICE ECONOMY

A publication by the Coalition of Service Industries

Vol. 4, No. 4 October 1990

A New Leading Economic Indicator of Service Inflation

Michael P. Niemira

The radio commentator, Paul Harvey, once said "in times like these, it helps to recall that there have always been times like these." And so it is true with service inflation. Since 1940, consumer service prices have outpaced commodity prices, measured on a year/year basis, a whopping 81.1 percent of the time (measured between March 1940 and July 1990). Moreover, service price increases have exceeded commodity prices by one percentage point or more in 64.1 percent of the months that the U.S. Department of Labor has data for that period. Carrying this one step further, service prices have exceeded commodity prices by two percentage points or more 38.4 percent of the time. These simple statistics lead us to ask why service prices often exceed commodity prices. Additionally, it seems to be widely believed that service prices are immune to the inflation cycle. Is this a correct perception? Are there leading indicators of service inflation similar to the leading indicators of the economy? And finally what are the implications for the future?

The Service/Goods Inflation Nexus: A Review of the Issues

Rappoport (1987) examined several claims about why inflation rates in the service sector generally have exceeded those of goods prices (see Chart 1). Rappoport concluded that (1) there was very little evidence that mismeasurement of inflation in services explained the higher pace of service inflation; (2) sector differences in productivity could not completely explain the differences in the sector inflation rates; but (3) there was some evidence that tightening in the female labor market relative to the male workforce contributed to the relatively higher service sector inflation rates. Rappoport's view of the role productivity plays in explaining price differentials was supported by

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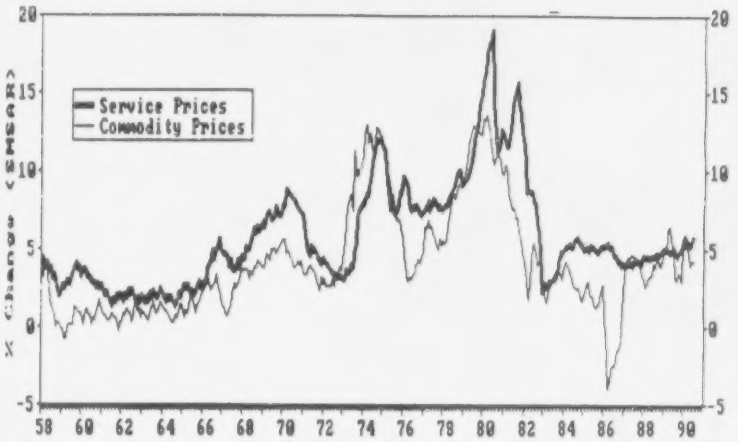
Kutscher and Mark (1983) who attacked the common perception that the shift to a larger share of service sector employment in the economy was the main reason for the productivity slowdown over the last 20 years. Kutscher and Mark concluded that the shift accounted for at most 0.1 percentage point lower rate of productivity per year. A study by Runyon (1985) also found little support for the view that the employment shift to services was the main cause of poor aggregate productivity, which in turn led to higher inflation in the economy. Generalizations about low productivity in the service industries may be misleading since both Kutscher and Mark and a study by Kendrick (1987) have found that many service industries are highly capital intensive and productivity varies widely among these services.

Chart I
Consumer Service & Commodity Prices



The Rappoport finding attributing higher service sector inflation rates to the relative tightness in the female workforce seems unconvincing (see, Niemira (1987)). In particular, the male-female unemployment rate differential remained essentially stable from about 1965 to 1979, while service sector inflation rates have been anything but stable during that period.

It is our contention that Bert Hickman's observation made in 1960 about service sector prices still is appropriate today. Hickman (1960) wrote that service prices "are subject to special influences which set them somewhat apart from industrial prices, especially with regard to sensitivity to current shifts of cost or demand...[Consequently,] as a class. . .they are slow to respond to changes in cost or demand, because some are subject to public regulation (utilities) and others are influenced by market imperfections of some sort or another (rent, medical care, personal services, etc.)."[1] But this does not mean that service prices are immune from the business cycle. In fact, the U.S. Department of Commerce classifies service prices as a lagging economic indicator of the business cycle—indeed, service prices are part of the Commerce Department's composite index of lagging economic indicators of business activity.

Some Facts About Service Inflation

Fact 1: Service Prices are Cyclical. While growth rates of goods and services prices are quite different over the business cycle (see Table 1), their relative cyclical amplitudes during periods of rising or slowing inflation have been quite similar. Since 1958, the average peak-to-trough amplitude in the commodity price cycle was -6.1 percentage points, while the average for service prices was a similar, though smaller, -5.3 percentage points. The trough-to-peak amplitude was even closer for commodities and services. Commodities rose 5.8 percentage points on average, while service prices rose 6.0 percentage points.

[1]Hickman, p. 399.

Fact 2: Service Prices are Less Sensitive to Supply-Side Price Shocks Than Are Commodity Prices. Supply-side price shocks tended to impact service prices indirectly through the overall increase in inflation. This was particularly evident in 1986 when oil prices fell sharply and service prices did not show much response.

Fact 3: Service Prices Tend to Lag Turning Points in Commodity Prices. On average, service prices tended to peak two months after commodity prices peak and reach a low about 10 months after commodity prices. This tendency suggests that service prices indeed are "sticky" on the way down. Moreover, the correlation for all periods (not just turning points) between service and commodity prices revealed a nine month lead time relationship of commodity over service prices.

Table 1
Relationship Between Turning Points in Price Cycles[1]
(1958-90)

Peaks

Total CPI-U		Service Prices		Commodity Prices	
Month	Rate	Month	Rate	Month	Rate
Mar 1958	4.2	Nov 1957	4.7	Mar 1958	3.9
Oct 1959	2.3	Oct 1959	4.2	Dec 1960	1.8
Oct 1966	4.1	Nov 1966	5.7	Apr 1966	3.2
Apr 1970	6.3	Mar 1970	8.9	Dec 1969	5.4
Sep 1974	12.5	Dec 1974	11.9	Mar 1974	13.0
Mar 1980	15.2	Jun 1980	19.2	Mar 1980	13.7
Feb 1984	5.0	Sep 1984	5.7	Feb 1984	4.3
Mar 1990*	5.7	Jul 1990*	5.9	May 1989*	6.4

*Current cycle high to date—not peak

Troughs

Total CPI-U		Service Prices		Commodity Prices	
Month	Rate	Month	Rate	Month	Rate
Mar 1959	0.2	Dec 1958	1.9	Mar 1958	-0.8
Jun 1961	0.6	Oct 1962	1.4	Nov 1961	-0.2
May 1967	2.1	Nov 1967	3.7	Apr 1967	0.7
Jun 1972	2.9	Feb 1973	3.1	Nov 1971	2.4
Jun 1976	4.9	Dec 1976	7.2	Apr 1976	2.9
Mar 1983	1.9	Dec 1982	2.2	Mar 1983	1.6
Apr 1986	0.4	Mar 1987	3.9	Apr 1986	-4.0

[1]Growth rates are calculated as "six-month smoothed annual rates" (SMSAR) as follows: the current value is divided by the average of the previous twelve months and the result is annualized.

Sources: Center for International Business Cycle Research (Columbia University), Bureau of Labor Statistics, and Mitsubishi Bank Economic Research Department (New York).

In Search of Leading Indicators of Service Price Cycles

Using these empirical "facts," is it possible to develop a leading indicator of the service sector price cycle? This investigation to find leading indicators of service sector price cycles loosely rests on Linder's theory of consumption and the Burns and Mitchell concept of "price diffusion." In essence, Linder argued that attempts to maximize consumer utility are subject to traditional budget constraints, but also to a "time constraint." This time constraint is an important extension of traditional theory that highlights the role time-saving items play in the consumer's selection of goods and services. As the time constraint becomes more binding, the demand for services becomes stronger, exerting an upward pressure on service prices.[2] At the same time, service prices tend to be slow to react to price pressures from sources outside the service sector. However, according to the concept of price difussion, once price pressures are more widely diffused service prices play "catch-up." This lagging relationship suggests that commodity prices themselves are a leading indicator of service prices. (This does not mean that service sector demand marches to the tune of the goods producing sectors—the focus is simply prices).

[2]For a discussion of this theory, see: Stanback (1979).

Simple correlation analysis and traditional National Bureau of Economic Research (NBER) cycle dating techniques were used to test the cyclical significance of a potential leading indicator of service prices. Several tentative conclusions were drawn:

1. The service-sector unemployment rate is a lagging indicator of service sector price movement.

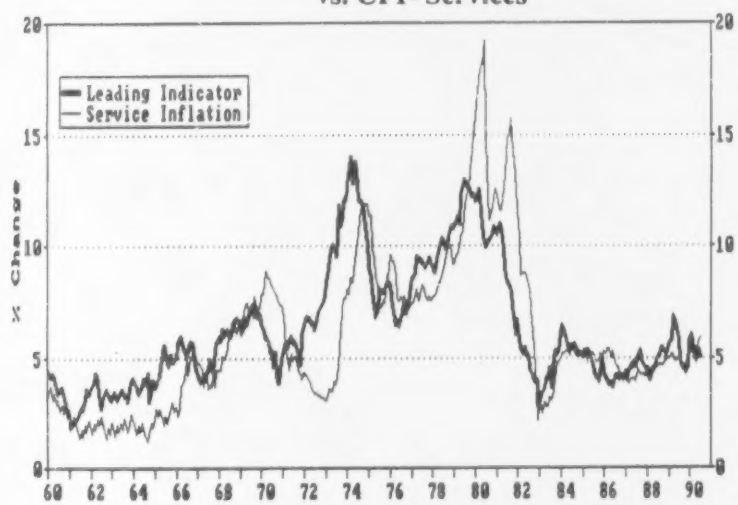
2. The rate of change in service sector employment is a leading indicator of service inflation.

One reason employment changes lead price changes in the service sector might be that as the demand for labor in the service sector heats up, wages and output prices are likely to rise. Yet, the sector unemployment rate did not appear to capture this price fluctuation since the unemployment rate is affected by longer term demographics and economic shifts within the economy.

Average hourly earnings for services is another sector specific indicator that was examined. This indicator was coincident with turning points in the service price cycle. It is interesting that wage increases in the service sector are, on balance, passed through to output prices rather rapidly. It was found that changes in average hourly earnings in manufacturing, however, led changes in service prices by ten months on average and led turning points by an average of three months.

Two other commodity prices—food and energy, appear to lead service sector inflation.[3] Food prices have led service prices by an average of eight months while energy prices have an average eleven-month lead time.

Chart 2
Leading Indicator of Service Inflation vs. CPI- Services



Source: Bureau of Labor Statistics, Mitsubishi Bank Economic Research

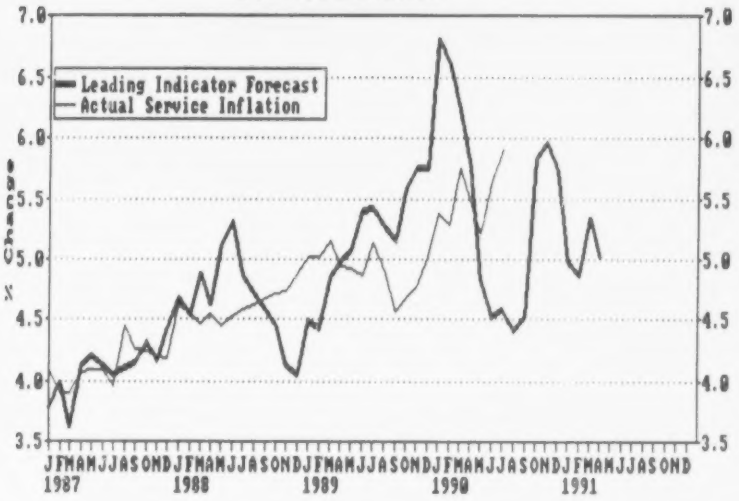
While this search for leading indicators is clearly an empirical exercise, it is helpful as a first step in formulating a theory of service sector price fluctuations. Although it is not the intention here to set forth that theory, the tentative conclusions highlight the importance of commodity price swings in determining the pace of service sector inflation.

An Experimental Leading Indicator of Service Sector Inflation

Since no single leading indicator of service inflation examined totally explained service sector price fluctuations, a composite index was formed of four services that appeared

[3] Food and energy prices often are the catalyst for a price-cost spiral and hence, a pickup in these commodity prices could signal a general rise in inflation.

Chart 3
Leading Indicator Forecast of Service Inflation


Leading Indicator Forecast
Actual Service Inflation
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
%
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1987
1988
1989
1990
1991

Source: Bureau of Labor Statistics, Mitsubishi Bank Economic Research

to have a consistent lead relationship over service prices. The experimental composite index was compiled from: (1) average hourly earnings in manufacturing, (2) service sector employment, (3) CPI for food, and (4) CPI for energy commodities.[4] This experimental leading indicator of service inflation is shown in Chart 2. The composite anticipates cyclical movement in service prices by an average of about ten months.

If there is any predictive ability from this indicator—and we believe there is—then it would suggest that service inflation is likely to slow down in the very near term only to blip up late in 1990 (see Chart 3). By early 1991, however, service inflation should again be unwinding.

While this initial work offers some promising evidence of what may or may not be important determinants of service sector swings, it is far from complete. Clearly, more research is needed to determine a comprehensive theory and a broader based set of economic indicators to serve as harbingers of service sector inflation. Nonetheless, this analysis has taken one step in that direction.

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[4] Because of the sticky nature of service prices on the downside, energy prices are assumed to impact service prices only when they are rising.

SERVICES ECONOMIC HIGHLIGHTS

CSI

Allen Sinai
Chief Economist, Boston Company Economic Advisors, Inc.

Services At a Glance

- ***Services GNP***—or the service component of expenditures by consumers, businesses, government and the net services export balance—rose at the annual rate of 1.8% in the second quarter, compared to a modest 0.8% rate in the first quarter. Although still rising, the service economy appears weaker than last year.

- ***Service Sector Leading Index***—which leads activity by about six months—showed only a 0.2% increase in August, down from 1% in July. The annual growth rate of the coincident service index, reflecting current economic conditions for the service sector, fell to 2% compared with 2.7% in the month earlier.

- ***Employment Growth*** in Services is weakening, reflecting a slowdown in demand. At 85.6 million, services sector employment in September declined 17,000 persons, after increasing only 9,000 in August. Compared to Septmber 1989, employment in services was 2.2 million higher.

- ***Personal Consumption Expenditures on Services*** jumped by 5.1% in the second quarter, following a mere 0.1% in the first. In more recent months, however, spending on services has weakened. In August, services expenditures rose an annualized 1.1% from July, following annual rates of 4% and 11.8% in the previous two months.

- ***Prices of Consumer Services*** continue to rise sharply, up 5.9% from year-earlier levels, and 0.7% from the previous month. Services price inflation shows no sign of easing.

- The ***Services Stock Price Index*** declined 10.5% in August and was down 13% from a year earlier.

- ***True Services Exports*** increased by $338 million in the second quarter, bringing the total for the quarter to a record-high $29.2 billion, surpassing the previous high of $28.9 billion in the quarter before.

- ***Plant and Equipment Expenditures by Service Industries*** surged 57.4% in the second quarter, following a strong 22.6% gain in the first quarter.

- ***Corporate Profits of Service Industries*** jumped 19.9% year-over-year in the second quarter, following a similarly based 25.4% rise in the previous quarter. Profits for all industries increased 33.2%.

Bottom Line: Service Economy activity continues to expand, but more slowly than last year and with fading momentum. Services are far outperforming the goods sector, with hardly any signs of a service economy recession now. However, a recession in manufacturing and construction is beginning to spill over into some service industries.

The Service Economy refers to the total economy, in which services activities are the dominant factor. The Service Economy comprises 68% of real production GNP and 76% of employment. Major segments are: Communications; Transportation; Public Utilities; Finance, Insurance and Real Estate; Wholesale and Retail Trade; Government; and "Service," a diverse category including Business Services, Personal Services, Professional and Health Services.

Chart 1
Real Gross National Product
(Total and by Sector, Indices, 1985:2 = 1.0)

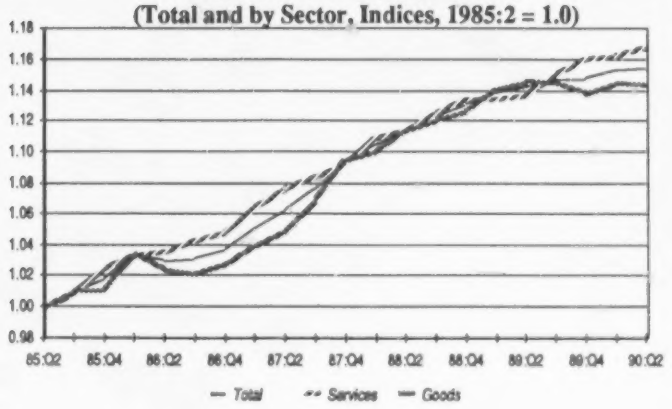


Chart 2
Leading Economic Indicator Indices
(Total Economy and Service Sector, Six-Month Smoothed, Percent Change at Annual Rates)

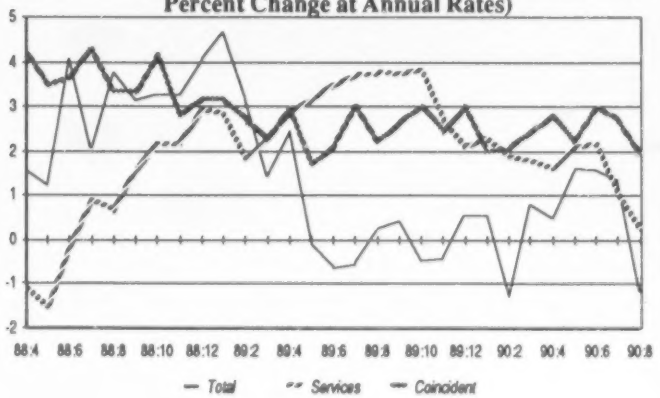
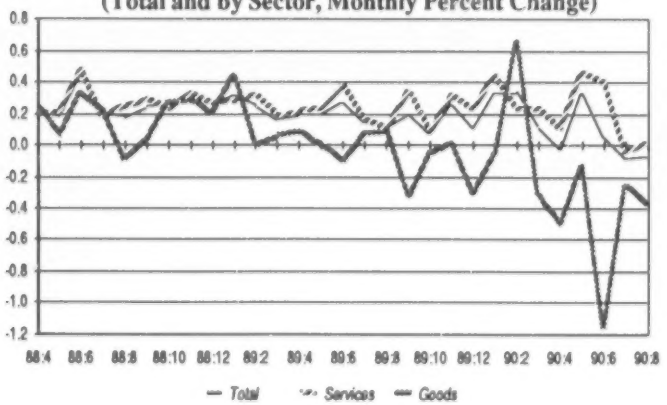


Chart 3
Employment Growth
(Total and by Sector, Monthly Percent Change)



Services GNP Still Holding Up

Second-quarter services GNP—measured on an expenditure basis—increased 1.8%, following a weak 0.8% in the first quarter. The goods component, including construction, fell 0.8%, reflecting a sharp 10.4% drop in construction. The figures compare with first-quarter growth rates of 2.4% and 12.5%, respectively. Total GNP was up an anemic 0.4%, after increasing 1.7% in the previous quarter. Although slowing, the service economy is still expanding.

Services Leading Indicator Shows Up Weaker

The leading index for the service sector fell to an annual rate of 0.2% in August, from 1% in July. The index was pulled down by a sharp 13% year-over-year drop in services stock prices and a shorter average workweek. The coincident index for service sector activity also showed slower growth rising 2%, compared with a 2.7% rate in July. The leading indicator for the whole economy fell 1.2%, after increasing 1.3% in July. This services indicator suggests a slowdown ahead.

The Service Sector Indices are produced by the Center for International Business Cycle Research, Columbia University.

Services Employment Weakens

Services-sector employment growth has started to show signs of weakening. In September, employment in services declined 17,000 from its month-earlier level to 85.6 million persons, after increasing only 9,000 in August. Employment in the goods sector fell for the seventh consecutive month, falling 84,000 to 24.9 million persons. Most sectors in services are showing sluggish or flat activity. Services job growth is weakening for the first time since mid-1982.

Chart 4
Expenditure on Plant and Equipment
(Total and by Sector, Indices, 1985:2 = 1.0)

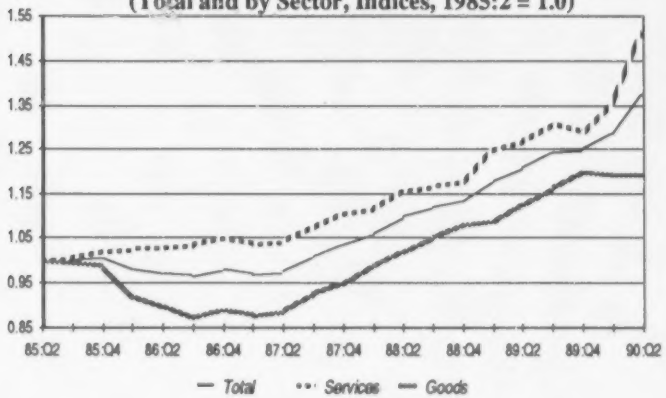


Chart 5
True Services Trade Balance
(Billions of Dollars)

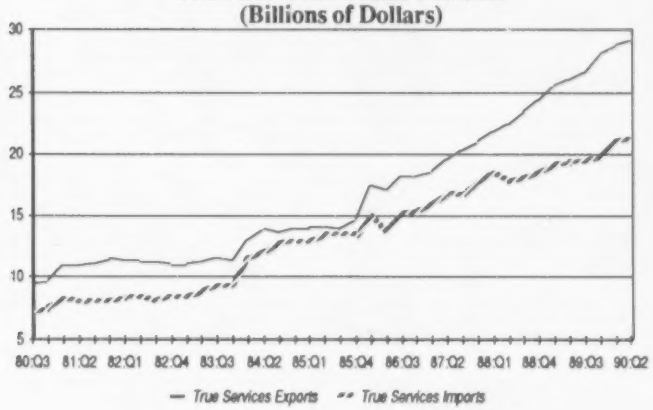
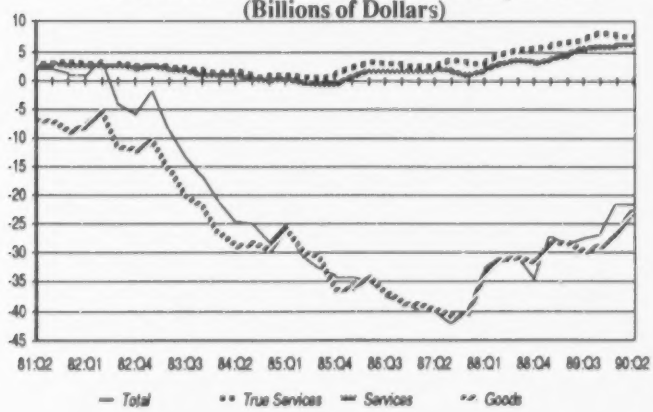


Chart 6
Current Account Balance and Components
(Billions of Dollars)



Services Capital Spending Soars

Service industries increased current dollar expenditures on plant and equipment (P&E) by a whopping 57.4% in the second quarter, following a strong 22.6% increase in the first quarter. Capital outlays by goods industries declined for the second consecutive quarter, down 0.5% in the second quarter after a 2.2% drop in the first three months of the year. Robust capital spending by service industries pushed overall investment in P&E up 31.3%. A boom in service capital outlays has been in process.

"True Services"* Trade Surplus Remains High

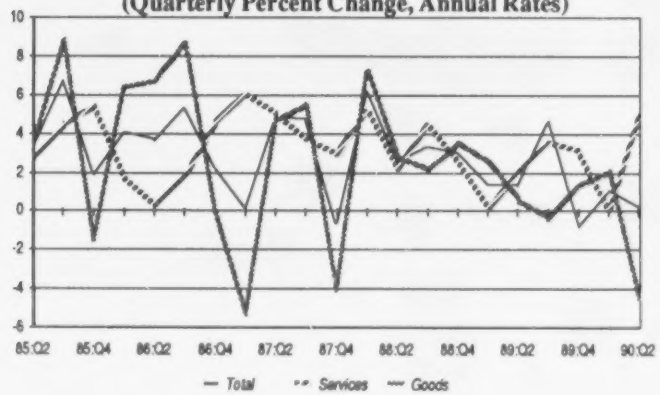
At $7.8 billion in the second quarter, the true services trade surplus was $116 million above its level in the first quarter, due mainly to higher services exports than imports. Both exports and imports posted record high levels. At $29.2 billion, true services exports were up from $28.9 billion in the first three months of the year, while true services imports amounted to $21.4 billion, up from $21.2 billion.

* *True services trade refers to nonfinancial trade flows such as travel, passenger fares, and fees and royalties.*

Current Account Deficit Widens

The current account deficit widened slightly to $21.8 billion in the second quarter, from $21.7 billion previously. The wider deficit was the combined result of a sharp $2.6 billion decline in investment income, to a deficit of $637 million from a surplus of $2 billion, and higher unilateral transfer payments. The goods trade deficit narrowed sharply to $22.6 billion—the smallest deficit since the fourth quarter of 1983—from $26.4 billion.

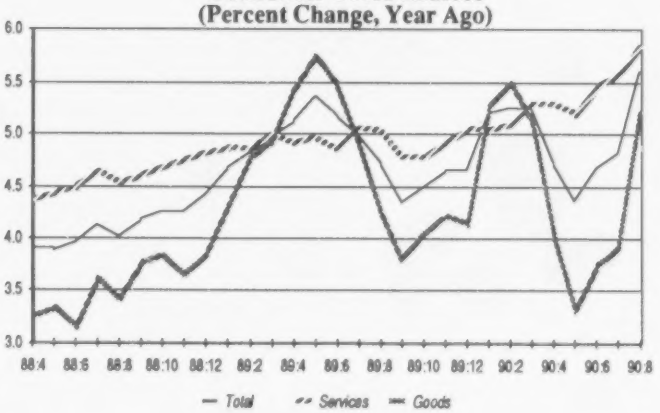
Chart 7
Real Personal Consumption Expenditures
(Quarterly Percent Change, Annual Rates)



Spending on Services Jumps 5.1%

Personal consumption expenditures on services soared to an inflation-adjusted 5.1% growth rate in the second quarter, compared to a mere 0.1% increase in the first quarter. Spending on goods declined 4.4%, swinging from a 2.7% gain in the previous quarter. Overall second-quarter expenditures increased a mere 0.2%, down from a 1.1% rate in the first quarter.

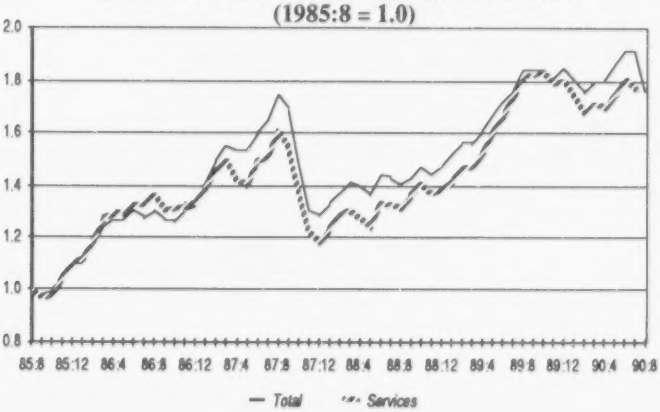
Chart 8
Consumer Price Indices
(Percent Change, Year Ago)



Services Inflation Soars

In August, services prices increased to a 5.9% year-over-year rate, from 5.6% in July. Reflecting higher oil prices, goods-sector inflation jumped to an annual rate of 5.2% in August, compared to 3.9% in the previous month. The overall consumer price index rose to 5.6%—the highest since August 1982.

Chart 9
S&P 500 and Services Stock Price Indices
(1985:8 = 1.0)



Stock Prices Plunge

For the second consecutive month, the S&P 500 and service industries stock price indices declined in August from month-earlier levels, down 8.1% and 10.5%, respectively, following declines of 0.1% and 2.2% in July. Compared to August 1989, the services stock price index plunged 13%, to 106.0, while the overall S&P index dropped 4.6%, to 330.8.

The Services Stock Price Index is based on S&P indices for 13 service industries and is compiled by the Center for International Business Cycle Research.

IS LOW SERVICE-INDUSTRY VOLATILITY "RECESSION PROTECTION" FOR THE ECONOMY?

by Allen Sinai and Pierre Ellis

A characteristic feature of the current economic episode has been a long tug-of-war between forces spreading recession in the manufacturing and construction industries, and a strong tide of expansion in the industries broadly labeled services. So far, service sector growth has carried the day, keeping total employment and GNP growing, at least slowly.

Because of the sturdy growth in services, there is a perception that the large, and expanding, role of these industries acts to "bulletproof" the economy against serious decline. It is also widely thought that service industry business is impervious to the effects of monetary policy tightening by the Federal Reserve. Under current tight labor market conditions, this suggests that service-sector wages and prices cannot be stopped from rising rapidly.

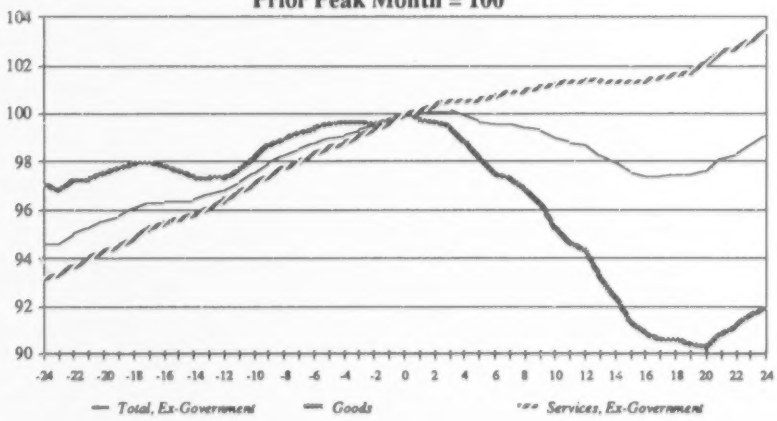
Contrary to these notions, the experience of recent recessions suggests that service industries are affected substantially by general economic weakness, and that the ability of services to cushion the economy is probably less than commonly imagined. Likewise, the role of the service industries in preventing a slowdown in inflation—over the long haul—is probably exaggerated.

Service Employment in Recessions—Typical Patterns

Widespread concern that the U.S. economy is close to, if not already in, a recession makes the historical pattern of service industry activity in economic downturns of critical interest.

Chart 1 displays the average experience over the last three full-scale recessions for major classes of employment—total private payroll employment (total payroll employment less government), goods-producing industry employment, and services-producing employment excluding the government sector. The government sector is excluded both because it tends to operate relatively independently of the private economy, and because the present generally poor fiscal condition of the public sector suggests that its historical movements may present too optimistic a model for the outlook.

Chart 1
Employment
(Average Index of Three Recessions, Seasonally Adjusted)
Prior Peak Month = 100



Plotted on the chart are indices for each major class of employment, averaged across the last three

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recessions. The raw unaveraged indices were set equal to 100 at the business cycle peak dates in 1969, 1973, and 1981, and showed data for two years before and after the peak. The chart of averages thus shows the "typical" experience of each employment group leading towards and actually entering a recession of recent form.

The typical recession experience is clearly one of sharp decline in goods-producing employment. For the private service-producing industries, the onset of a recession appears to produce only a slowdown in employment growth, which is followed, after about a year, by a period of flat or modestly declining employment.

Notable is the fact that employment growth in the service industries typically prevents outright employment decline in the total economy for only a brief period after the onset of a full-scale recession. After this short period, the cumulating decline in total payroll employment begins rolling, and extends for about a year.

Service Employment—Current Behavior

Chart 2 shows recent employment trends in a format similar to Chart 1—with the indices set equal to 100 at the rough beginning of the latest downtrend in goods-producing employment in August 1989.

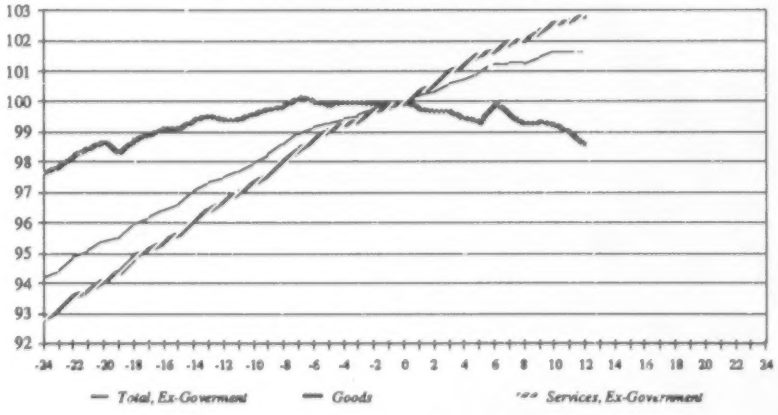
It is apparent that the recent decline in goods-producing employment has not been as dramatic as in the full-scale recession experiences of Chart 1, though an acceleration may have begun in the last several months.

Private service-producing employment, meanwhile, appears to have decelerated a bit in mid-1989, and—despite the absence of an outright crash in goods-producing employment—in the last few months has only barely offset the drop in goods-producing employment.

Service Economy Slowdown— Critical to the Economic Outlook

Clearly, an expansion in total employment in coming months can no longer be confidently predicted strictly on the basis of service-sector growth. The present outlook for total U.S. employment, and indeed for the health of the overall economy, will depend on whether current conditions produce the prolonged slowdown in service employment growth typical of recent recessions.

Chart 2
Employment
(August 1989 = 100, Seasonally Adjusted)



Sources: Bureau of Labor Statistics, The Boston Company Economic Advisors, Inc.

The tendency of total private service-sector employment to soften in recessions obviously results from the fact that demand for some services is sensitive to business cycle movements, in part a spillover from goods-producing weakness. Weakness in these categories offsets, for a time,

the strong growth trend in other service areas which makes expansion of the sector as a whole relatively stable.

In coming months, service sector employment will reflect the effects of the general economic slowdown which has already begun. The issue is whether the effects will be substantial enough to weigh down the entire sector, and perhaps the overall economy.

Some sense of the possible service-sector swing can be gotten by looking at the likely volatility of demand for various services, and seeing how this volatility is reflected in the service employment figures. On the basis of the experience of past downturns, recent service sector employment trends may very well suggest a nascent recession.

Service-Sector Employment—Not a Monolith

The volatility of demand for various services runs from near-zero for some "necessity" services, of which health care is the prime example, to an intermediate range for services linked directly to the pace of overall economic activity, to a level approaching that of consumer durable goods spending for a few highly "postponable" services.

The "necessity" services are demanded almost irrespective of economic circumstances, and employment in these industries grows with the population and with increasing access among the population.

Services where demand is closely linked to business activity would be those used as an input to the production or distribution of goods, or in the production of other services for which basic demand is affected by the business cycle. Key examples are portions of the transportation industry, portions of the travel and entertainment industries, and some activities within the group of industries labeled "business services"—though it should be noted that some business service industries, by serving as outside substitutes for dismissed in-house staffs, benefit from declining overall business conditions.

The wholesale and retail trade industries also clearly have a sensitivity to the overall level of business activity, both as elements in distribution channels, and on a regional basis and beyond the strictly goods-merchandising sector, because they can be severely affected by local economic conditions determined by the health of cyclical national industries.

The most volatile group of service industries is likely to be those which provide postponable services to consumers. The consumer-oriented travel and entertainment businesses are of significant importance in this category.

For many consumers the service provided by these industries is similar in nature to a consumer durable good, since the relaxation and rejuvenation benefits of a holiday remain for an extended period. At the same time, the relatively large expenditure involved coupled with the postponability of travel and entertainment consumption, gives it nearly the same standing in consumer budgets as auto purchases—first to be cut when things go bad, and first to be undertaken, due to pent-up demand, when finances stabilize.

Service Employment Volatility in Recessions—Typical Patterns

Chart 3 reproduces the format of Chart 1 to show employment trends in individual service-producing industries. Each line is an index tracing the average experience of a particular industry over the last three full-scale recessions.

A line is plotted for most major service-producing industries for which seasonally adjusted monthly data are available. Wholesale and retail trade totals are combined, for clarity. The narrowly defined "services" group within the service-producing total is represented by its three major components—health services, business services, and the implicit "other services" group which includes, among other categories, hotels and amusement services.

Most conspicuous on the chart is the absolute steadiness of health services employment growth. This is no surprise, but still very striking.

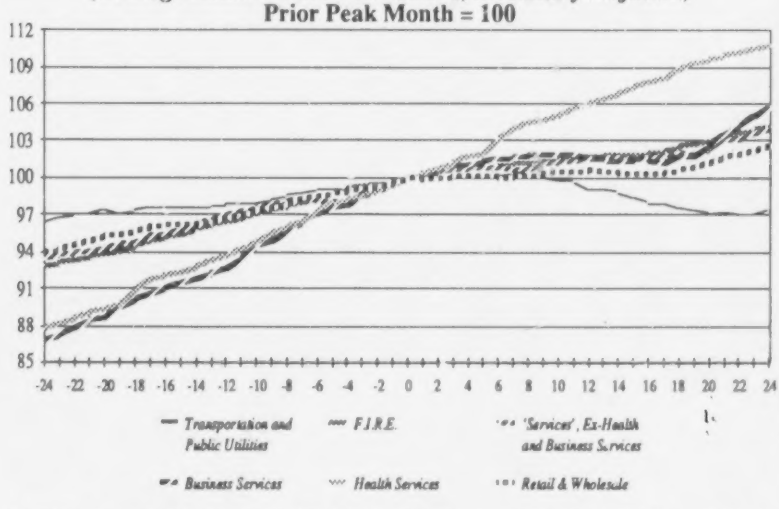
Though the relatively coarse industry breakdown of the available data works to smooth the index lines by combining businesses with great differences in volatility, employment in each of the industry groups other than health services shows a pronounced flattening, or outright decline, shortly after the business cycle peak—meaning shortly after the onset of a recession.

In line with its role as a substitute for in-house staff, business services employment appears slightly more prone to continue rising early in the recession than do the other categories.

Finance, insurance, and real estate, the "other services" group, and the combined retail and wholesale trade category experience faltering employment early-on in the recession, and then show near-zero expansion for many months. This would reflect the combination in these industries of business-activity-related services and "postponable" consumer services.

A similar combination characterizes the transportation and public utilities group, and may be the reason for the strong tendency there for employment to drop throughout the typical recession.

Chart 3
Services Employment
(Average Index of Three Recessions, Seasonally Adjusted)
Prior Peak Month = 100



Sources: Bureau of Labor Statistics, The Boston Company Economic Advisors, Inc.

Current Trends in Service Employment—Is a Recession Underway?

Chart 4 portrays recent service industry employment developments in the format of Chart 3. As was done earlier, the indices are set equal to 100 on the August 1989 recent peak in goods-producing employment.

Again, the steady growth of health services employment is conspicuous. This sector has clearly maintained its historic role of stabilizing overall service-sector employment growth.

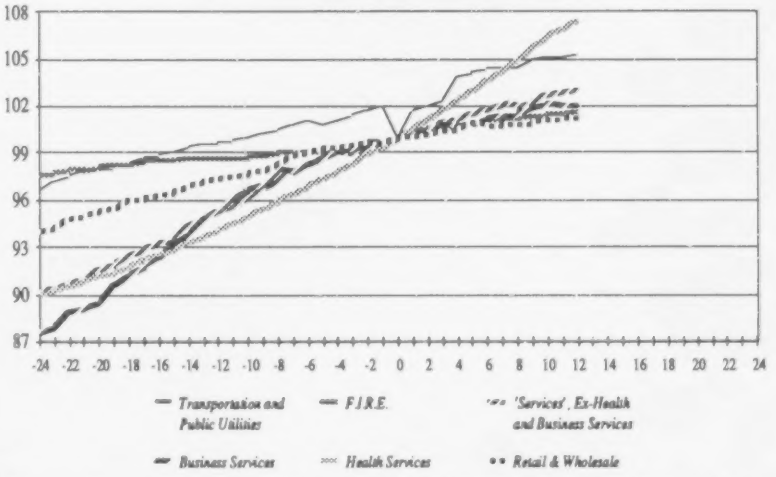
The other plotted industries, by and large, have seen a slowing in employment growth since late 1989, and some show a flattening suggestive of earlier recession patterns. However, this flattening has not yet been so prolonged as in the typical recession experience, and the

transportation and public utilities group does not show the typical decline.

Though service industry employment does not give a definitive signal of recession underway, it is quite clear that the stage has been set.

What may still be absent at this stage is the typical sharp cutback in consumer expenditures on postponables triggered by the initial wave of economic weakness in the recession. This sharp cutback is not evident in consumer durables spending either. However, continuing and deepening weakness on the goods-producing side of the economy, and a clear slowdown on the services-producing side, makes a drop in consumer "postponables" spending more and more likely.

Chart 4
Services Employment
(August 1989 = 100, Seasonally Adjusted)



Sources: Bureau of Labor Statistics, The Boston Company Economic Advisors, Inc.

Conclusion

The history of recent recessions shows that, of course, service industry activity is substantially less volatile than activity in the classic "cyclical" industries. Where manufacturing and construction employment commonly fall dramatically in a recession, service industry employment in total tends only to flatten.

However, if flattened service employment allows the declines in goods producing employment to pull overall employment down, then the likelihood of a serious "cumulating," or snowballing, economic contraction is increased, as the reduced spending of the newly out-of-work is no longer offset, at least partially, by increased spending from the newly hired. Thus, service industry employment is limited in its ability to prevent economic downturns, and seems unlikely to prevent a full-scale recession under current circumstances.

Flattening service employment and declining overall employment obviously imply reduced absorption of employees laid off by declining industries, and reduced absorption of new entrants to the labor force. Both trends tend to push up the unemployment rate, reducing upward pressure on wages. This lessens the cost-side pressure on services prices, and on general inflation—indicating that the role of service-industry trends in sustaining inflation in recent quarters is not likely to be permanent.

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Table 1
Summary of the Service Economy
(Monthly Indicators)

	1990:4	1990:5	1990:6	1990:7	1990:8	1990:9	1985	1986	1987	1988	1989
Total Employment—Millions	110.4	110.8	110.8	110.7	110.7	110.6	97.5	99.5	102.2	105.6	108.6
Services	84.9	85.3	85.7	85.6	85.6	85.6	72.7	75.0	77.5	80.3	82.9
Goods	25.5	25.5	25.2	25.1	25.0	24.9	24.9	24.6	24.7	25.2	25.6
Total Wages and Salaries—											
Billions of Dollars	2682.2	2693.6	2711.1	2727.3	2728.0	—	1975.4	2094.8	2249.4	2429.0	2631.1
Services	1956 8	1962.5	1975.3	1992.2	1992.6	—	1366.5	1469.2	1599.4	1732.7	1892.9
Goods	725.4	731.1	735.8	735.1	735.4	—	608.9	625.6	649.9	696.3	738.2
Total Wages and Salaries—											
%Change, Year-Over-Year	3.1	3.5	3.4	3.1	2.9	—	7.4	6.0	7.4	8.0	8.3
Services	4.7	4.9	4.8	4.5	4.5	—	8.4	7.5	8.9	8.3	9.2
Goods	-1.0	-0.2	0.0	-0.6	-1.2	—	5.4	2.7	3.9	7.1	6.0
Consumer Price Index—All Urban,											
%Change, Year-Over-Year	4.7	4.4	4.7	4.8	5.6	—	3.5	1.9	3.7	4.1	4.8
Services	5.3	5.2	5.5	5.6	5.9	—	5.1	5.0	4.1	4.6	4.9
Goods	4.0	3.3	3.8	3.9	5.2	—	2.1	-1.0	3.2	3.5	4.7
Services Leading Indicator											
Index (%)*	1.6	2.1	2.2	1.0	0.2	—	3.3	4.9	2.3	0.2	3.2
Leading Economic Indicator											
Index—Total (%)*	0.5	1.6	1.5	1.3	-1.2	—	2.0	6.6	5.9	1.9	1.5
Services Coincident Indicator											
Index (%)*	2.8	2.2	3.0	2.7	2.0	—	3.8	3.3	3.6	3.8	2.7
Service Industries Stock Price											
Index	113.8	117.3	121.2	118.5	106.0	—	66.2	86.3	95.6	88.3	111.5
S&P 500 Stock Price Index	338.2	350.3	360.4	360.0	330.8	—	186.8	236.3	286.8	265.8	322.8

** Growth rate expressed in six-month smoothed percent changes at annual rate.*

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Center for International Business Cycle Research and The Boston Company Economic Advisors, Inc.

Table 2
Summary of the Service Economy
(Percent Change, SAAR, Except Where Indicated)

	11989:1	1989:2	1989:3	1989:4	1990:1	1990:2	1985	1986	1987	1988	1989
Gross National Product	3.6	1.6	1.7	0.3	1.7	0.4	3.4	2.7	3.4	4.5	2.5
Services	1.0	1.3	4.5	3.4	0.8	1.8	3.6	3.2	3.4	4.0	2.4
Goods and Construction	6.0	1.9	-0.6	-2.3	2.4	-0.8	3.1	2.3	3.4	4.8	2.6
Construction	-1.3	-8.5	-1.4	0.7	12.5	-10.4	3.7	1.5	-0.7	-0.7	-2.2
GNP—Product Measure	—	—	—	—	—	—	3.4	2.7	3.4	4.5	2.5
Services	—	—	—	—	—	—	4.1	3.8	3.9	NA	NA
Goods	—	—	—	—	—	—	3.9	1.2	3.2	NA	NA
Manufacturing	—	—	—	—	—	—	3.8	2.3	4.3	NA	NA
Agri./Mining/Construction	—	—	—	—	—	—	4.0	-0.8	0.9	NA	NA
Consumption Expenditures	-0.3	1.3	4.6	-0.8	1.1	0.2	4.7	3.9	2.8	3.6	1.9
Services	0.9	2.1	3.5	3.1	0.1	5.1	4.7	2.7	4.0	3.8	2.3
Goods	-1.5	0.6	5.7	-4.4	2.1	-4.4	4.7	5.0	1.7	3.4	1.5
Plant and Equipment Expenditures—											
Current Dollars	16.7	10.3	12.5	1.6	11.6	31.3	9.2	-2.0	2.4	10.6	10.7
Services	26.8	6.8	12.2	-5.9	22.6	57.4	9.6	3.4	2.9	8.4	10.8
Goods	3.7	15.4	13.0	12.9	-2.2	-0.5	8.8	-9.1	1.8	13.7	10.5
Corporate Profits—Current Dollars											
%Change, Year-Over-Year	-37.2	-7.7	14.0	-26.8	28.7	33.2	-5.8	2.0	11.9	12.8	-4.6
Services	-23.8	20.3	-24.5	-4.3	25.3	19.9	-2.4	21.5	-2.9	6.2	-0.6
Goods	-32.7	-11.6	4.1	-50.7	34.3	56.7	-10.3	-25.4	45.7	22.8	-9.7

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics and The Boston Company Economic Advisors, Inc.

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Table 3
Summary of the Service Economy
(Billions of 1982 Dollars, SAAR, Except Where Indicated)

	1989:1	1989:2	1989:3	1989:4	1990:1	1990:2	1985	1986	1987	1988	1989
Gross National Product	4095.7	4112.2	4129.7	4133.2	4150.6	4155.1	3618.7	3717.9	3845.3	4016.8	4117.7
Services	1896.7	1902.5	1923.5	1939.7	1943.7	1952.5	1684.3	1738.8	1798.1	1870.5	1915.6
Goods and Construction	2199.1	2209.6	2206.3	2193.5	2206.8	2202.5	1934.5	1979.1	2047.1	2146.3	2202.1
Construction	379.4	371.1	369.8	370.4	381.5	371.2	380.8	386.5	383.8	381.1	372.7
GNP—Product Measure *	—	—	—	—	—	—	3618.7	3717.9	3845.3	4016.8	4117.7
Services	—	—	—	—	—	—	2407.8	2498.9	2595.4	NA	NA
Goods	—	—	—	—	—	—	1176.1	1190.6	1228.9	NA	NA
Manufacturing	—	—	—	—	—	—	786.8	804.6	839.5	NA	NA
Agri./Mining/Construction	—	—	—	—	—	—	389.3	386.0	389.4	NA	NA
Consumption Expenditures	2636.7	2645.3	2675.3	2669.9	2677.3	2678.8	2354.8	2446.4	2515.7	2606.5	2656.8
Services	1295.8	1302.5	1313.8	1323.8	1324.2	1340.8	1152.3	1183.8	1231.6	1278.9	1309.0
Goods	1340.9	1342.8	1361.5	1346.1	1353.2	1338.0	1202.5	1262.6	1284.1	1327.6	1347.8
Plant and Equipment Expenditures—											
Current Dollars	459.5	470.9	484.9	486.8	500.3	535.5	387.2	379.3	388.5	429.6	475.5
Services	272.1	276.6	284.7	280.4	295.1	330.5	217.8	225.3	231.8	251.3	278.5
Goods	187.4	194.2	200.2	206.4	205.2	205.0	169.4	154.0	156.8	178.3	197.1
Corporate Profits—											
Billions of Dollars	233.1	228.5	236.1	218.4	232.6	249.9	191.4	195.2	218.5	246.5	235.3
Services	139.5	146.1	136.2	134.7	142.5	149.1	111.7	135.8	131.8	140.0	139.1
Goods	102.0	98.9	99.9	83.7	90.1	100.8	79.7	59.5	86.7	106.5	96.1
Current Account Balance—											
Quarterly Rates	-27.1	-28.6	-27.6	-26.7	-21.7	-21.8	-122.3	-145.4	-162.3	-128.9	-110.0
Services Balance	4.1	4.5	5.7	6.1	6.3	6.1	-0.3	1.5	1.6	2.9	5.1
True Services Balance **	6.2	6.6	7.2	8.3	7.7	7.8	3.4	11.6	12.0	19.0	28.2
Exports	25.5	26.0	26.7	28.1	28.9	29.2	56.9	70.9	79.4	92.1	106.2
Imports	-19.3	-19.4	-19.5	-19.9	-21.2	-21.4	-53.6	-59.3	-67.5	-73.1	-78.0
Investment Income Balance	-0.5	-2.0	0.0	0.6	2.0	-0.6	25.9	21.6	22.3	2.2	-0.9
Merchandise Trade Balance	-28.1	-28.2	-29.8	-28.7	-26.4	-22.6	-122.1	-145.1	-159.5	-127.0	-114.9

* *Under revision.*

** *True Services Balance is the balance on Service exports and imports excluding receipts and payments on investments and government transactions.*

Sources: Bureau of Economic Analysis and The Boston Company Economic Advisors, Inc.

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THE SERVICE ECONOMY is a product of the CSI Task Force on Data Collection and Statistical Improvement. Comments or suggestions should be directed to Maria Eli, Editor, at 202/467-3054.

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